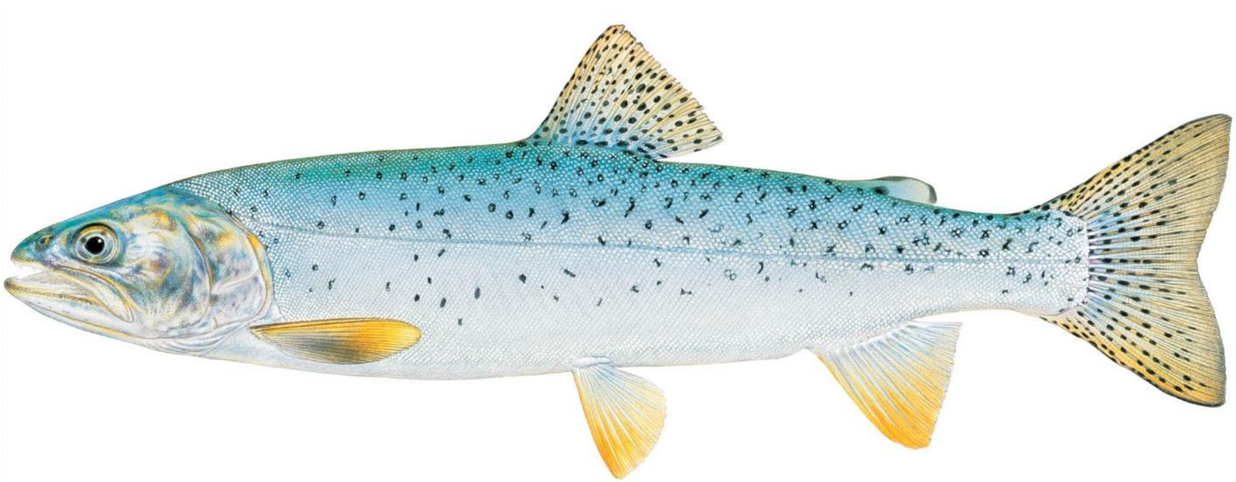
Fisheries Management Plan

2025 to 2030

A comprehensive Guide to Managing Idaho's Fisheries Resources



Bonneville Cutthroat Trout-©Joseph R. Tomelleri.

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Introduction

The 2025 – 2030 Fisheries Management Plan describes management direction of the Idaho Department of Fish and Game's (Department) Fisheries Bureau and acts as the guiding document for fisheries management activities for 2025 through 2030. The goals, objectives, and preferred outcomes identified in this plan reflect the Department's Mission and the preferences of anglers and other interested stakeholders regarding conservation and management of Idaho’s aquatic resources. The plan updates the previous plans and includes new information reflecting changes to programs, management direction, emerging challenges, or angler preferences. Public engagement and comments, as well as peer and partner review, were considered and incorporated as appropriate. Annual and longer-term work activities of Department field and headquarters fisheries staff will be guided by the priorities and framework approved in the plan.

The Idaho Department of Fish and Game Mission

The mission statement for the Department is codified in Idaho Statute (Title 36-103), and states,

“All wildlife, including all wild animals, wild birds, and fish, within the state of Idaho, is hereby declared to be the property of the state of Idaho. It shall be preserved, protected, perpetuated, and managed. It shall only be captured or taken at such times or places, under such conditions, or by such means, or in such manner, as will preserve, protect, and perpetuate such wildlife, and provide for the citizens of this state and, as by law permitted to others, continued supplies of such wildlife for hunting, fishing and trapping.”

The mission statement as well as additional guidance from the Commission set the overarching framework and philosophies for the Department’s efforts to manage fisheries resources.

Our Core Values

Our Vision
The Department shall work with the citizens of Idaho to provide abundant and diverse fish communities and fishing opportunities, while ensuring a rich outdoor heritage for current and future generations.

Public Trust
Idaho fish and fisheries are public trust resources. The Department will work to ensure fair and equitable access to trust resources for all citizens.

Science-based Management
Scientifically developed knowledge and information are essential to effective fish and fisheries management. The Department will remain committed to producing scientifically sound technical information and will work to effectively communicate scientific information to the public, stakeholders, as well as the IFG Commission and other decision makers.

Sustainability
The Department will strive to maintain or increase sustainability by managing habitat, harvest, and other factors so that populations will remain or become self-sustaining.

Ecosystem Management

Healthy fish populations and robust fisheries are reliant on productive habitats and healthy ecosystems. The Department acknowledges that an ecosystem perspective is necessary for long-term sustainability of natural resources as well as human communities and economies.

Credibility
The highest level of agency and employee objectivity, expertise, professionalism, and effectiveness are necessary to meet today's conservation challenges. The Department will strive to always exhibit these standards and foster good working relationships with anglers, stakeholders, and decisions makers through frequent and effective communication and engagement.

Idaho Anglers - Their Opinions and Preferences

Idaho is one of the fastest growing states in the country. Idaho's population grew from 1.84 to 1.96 million (6.8%) from April 2020 to July 2023. Despite much of the growth occurring in more urban counties, interest in fishing has remained high. In 2023, 363,320 resident anglers possessed some form of fishing license, representing about 19% of the population. When compared to other states, a relatively high proportion of Idaho citizens hold fishing licenses. In 2023, 184,023 anglers from other states and countries purchased Idaho fishing licenses. There remains a strong interest in salmon and steelhead fisheries in Idaho. Participation in these fisheries requires a separate permit. For steelhead, 48,907 resident and 4,948 non-resident permits were sold whereas for salmon there were 8,832 resident and 2,450 non-resident permit holders in 2023.

Many Idaho resident license holders are generalists in outdoor recreation. Most fishing privileges were licenses such as sportsman's package, combination license, or senior combination license, suggesting that many anglers also participate in hunting and therefore are at least somewhat consumptive oriented. Most anglers are male, but the percentage of female angler license holders increased from 28% to 33% from 2017 to 2022. Idaho anglers are primarily white; however, the percentage of Hispanic anglers was 4.8% in 2022. The average age of anglers in Idaho is 46, with a good distribution of ages across the spectrum (Figure 1). This rather flat distribution suggests that angler recruitment and retention in Idaho is sufficiently stable.

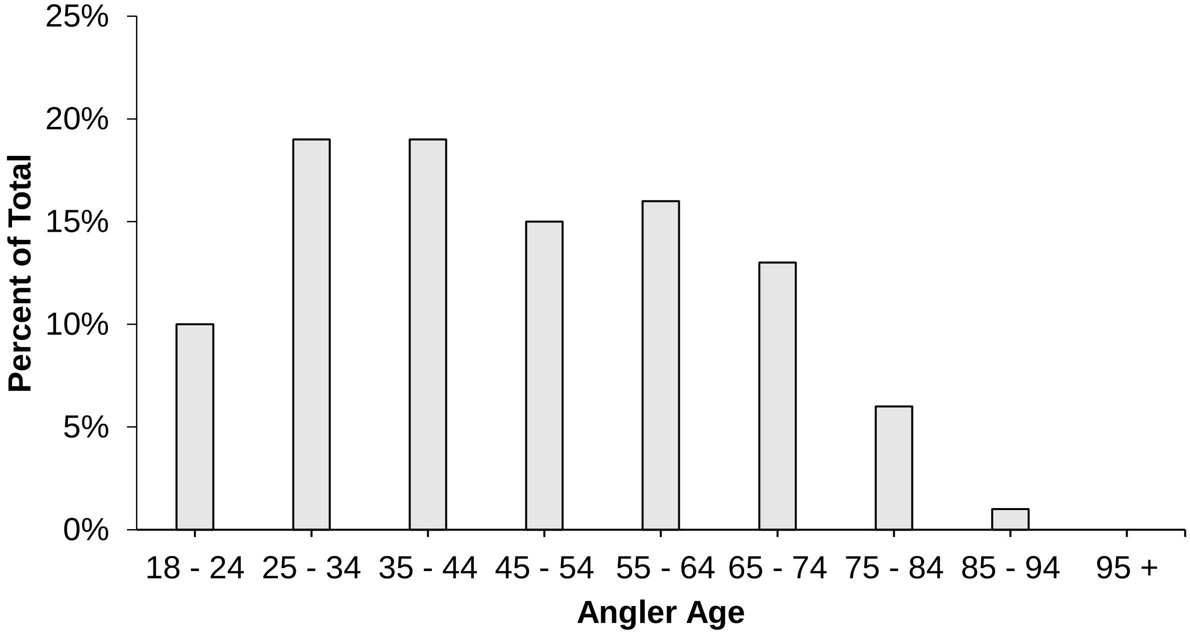


Figure 1. Age distribution of Idaho anglers aged 18 and older

The Department has conducted angler opinion surveys at 6- to 10-year intervals starting in 1968 and most recently in 2022. Angler opinion surveys are intended to inform the Department about angler preferences and to inform management plan direction as well as guide staff workplans. Across the 8 surveys covering 57 years, angler opinions and preferences have been remarkably stable in several important categories. Trout remain the most preferred target species, followed by bass. "Anything that bites" has continually ranked high suggesting that many anglers are generalists. Idaho anglers consistently indicate strong support for improving aquatic habitat, providing fishing and boating access, and managing for native trout; whereas low support for programs to teach fishing classes and provide local community pond fishing opportunities. In cases where it becomes necessary to reduce harvest, anglers prefer reductions in bag limit or adjustment in length limits, rather than limiting the number of anglers through lottery draws, daily-use fees, or shortening seasons. Anglers consistently express ambivalence or mixed support for tournaments, with more support for bass tournaments on reservoirs and less support for tournaments on native game fish, especially in wilderness areas.

Angler motivations and satisfaction have also been relatively consistent. Anglers have indicated that non-catch related aspects of fishing (enjoying nature, being outdoors, relaxation, spending time with family) are more important than catch (number or size of fish caught). This is somewhat paradoxical as the Department has little ability to control non-catch related aspects of the fishing experience and allocates much more focus and effort to managing fish populations. Regardless, Idaho anglers appear to be satisfied. Over three-quarters of survey respondents indicated that they were “satisfied” or “highly satisfied” with their overall fishing experience. Also, respondents were “satisfied” or “highly satisfied” with many more specific aspects of their experience including types of fish, fishing regulations, license cost, access, and habitat quality. Lower satisfaction was expressed for access to anadromous fisheries and the number of non-anglers present on water bodies.

Crowding has become an emerging concern amongst Idaho anglers. Increasing population combined with the Covid bump in outdoor recreation has led to more frequently expressed concern about overcrowding. The Department queried anglers' opinions regarding crowding in the angler opinion survey to establish a baseline for future comparisons. Anglers rated crowding as 5.1 or moderately crowded on a 1 (not crowded) to 9 (extremely crowded) scale. Backcountry high mountain lake anglers (2.5) experienced the lowest levels of crowding, while anglers participating in anadromous fisheries (6.1) or utilizing campgrounds (6.2) or access sites such as boat ramps (5.7) experienced the highest levels of crowding. Regarding potential management strategies to manage crowding, most anglers (59-66%) support or strongly support limiting access to Department sites by requiring a fishing or other Department license. Conversely, 68% of anglers oppose or strongly oppose using a lottery draw with limited fish permits on high-use waters, and 69% oppose requiring a daily fishing fee on high-use waterbodies.

Similar to crowding, the Department was interested in better understanding perceptions of the agency and asked anglers to rate their level of agreement with statements regarding Department fairness and competency from "strongly disagree" (1) to "strongly agree" (6). Overall, anglers slightly-agreed (4) to agreed (5) that the agency was fair, receptive, responsive, and acted in the best interest of anglers with a mean score of 4. Generally, most anglers agreed (5) that the Department was competent and exhibited integrity while managing Idaho's fisheries. The statement that received the most disagreement was that the Department "would be honest with anglers if it managed fisheries poorly," which received a mean response of 3.8. This may indicate more effective communication with the public is needed to publicize Department efforts whether the outcomes are positive or negative. Anglers' preferred means of receiving information from the Department have changed over time, with communication by email or through the Department's website ranking higher than public or online meetings.

Two noteworthy changes were observed in the 2022 angler opinion survey, a change in fishing gear preference and a decline in survey participation. In 2006 anglers expressed a preference for using bait and lure in that order with a minority of anglers indicating preference for fly fishing. By 2022, the preferred gear type was lure followed by fly, with bait being a distant third. Also, the response rate has declined to 23% in 2022, compared to 28.5% in 2017, 35% in 2011, and 45% in 2006. The decline in survey participation is consistent with national trends. Summaries of angler's opinions and preferences will continue to inform adjustments to policy and direction of the Department's fisheries management efforts.

Fishing Economics in Idaho

While the true value of fish and fishing are difficult to estimate due to aesthetic and intrinsic components, there is no doubt that fishing is a substantial driver of national, regional, and state economies. The travel, recreation, and tourism industry in Idaho generates an estimated $3.7 billion in direct spending and supports over 37,000 jobs, ranking it as the third largest industry in the state only behind agriculture and technology. Fishing is known to be a large contributor of this total; and as recently as 2018, Idaho anglers spent nearly $788 million on fishing-related expenses, which at the time generated nearly $1.2 billion in economic activity and supported 8,750 jobs (American Sportfishing Association 2020). Another evaluation using differing methods estimated that conventional outdoor recreation contributed $1.21 billion to Idaho's Gross State Product in 2021 with fishing comprising 14% of that total. Regardless of the different methodologies and estimates, it is well established that fish and fishing are very important to the state's economy.

The effects of spending from fishing are felt in many sectors of Idaho's economy. Businesses that sell directly to anglers benefit. These include large outdoor retailers, smaller mom-and-pop tackle stores, marinas, boat dealers, and boat repair shops. Anglers also spend money frequently for lodging and travel costs with direct spending at convenience stores, campgrounds, motels, as well as by hiring the services of Outfitters and Guides. While there is some overlap with previously cited estimates, fishing is known to support a substantial proportion of the nearly $593 million in sales and $417 million in Gross State Product generated by Idaho's Outfitters and Guides industry (Vandal Impact Center 2023).

Healthy fish populations and accessible fisheries supported by user fees and mitigation funds provided benefits to the state's economy. The Department will continue to periodically conduct economic surveys of anglers to better understand and communicate the importance of good fisheries management; adequate access, staffing, and funding; and high-quality aquatic habitats are to the economic well-being of the state.

Fisheries Management in Idaho

Fisheries management in Idaho requires efforts to understand and manage the interactions of habitats, fish, and people. Fish habitat quality across Idaho is mixed with high quality and highly productive habitats supporting abundant wild fish populations and fisheries, and other habitats being more severely impacted and incapable of supporting quality fisheries. The Department focuses on expanding efforts to maintain habitat quality or enhance impacted habitats to maintain and improve fish populations. Idaho fisheries range from those comprised of native species to waters containing only non-native species. In much of the state, the primary game fish are native species such as Chinook Salmon, Cutthroat Trout, Redband Trout, steelhead, bull trout, and White Sturgeon. Non-native game fish provide important fisheries and include Rainbow Trout (outside native range), Brown Trout, Lake Trout, Brook Trout, kokanee, Smallmouth and Largemouth Bass, a variety of sunfish, Yellow Perch, Black and White Crappie, Channel Catfish, Walleye, tiger muskellunge (hereafter tiger muskie) and other lesser-known species. In some waters, native and nonnative species may be compatible while in other waters more concentrated management action is required to conserve native species or meet fisheries management objectives. The Department will continue to focus on understanding the biology, species interactions, and population dynamics of fish and fish communities which is key to determine limiting factors and identify whether management programs need to be modified. Successful fisheries management will continue to require work with a variety of people, on preferences, outreach and education, enforcement, technical assistance, regulations, access and habitat management.

A top priority is to manage populations so that fisheries are sustainable and angling demands are met through natural fish spawning, reproduction, and growth. In areas where natural fish spawning and reproduction are insufficient to meet angling demands, stocking hatchery fish may be used to provide or enhance angling opportunity. Hatchery fish may be released in grow-and-take fisheries, where they may require two or more years of growth to reach harvestable sizes, and put-and-take fisheries, where they are immediately available for harvest. These programs will be used primarily in heavily fished or altered habitats to enhance recreational fishing, with emphasis given to those areas where a high proportion of hatchery-produced fish are caught by anglers. During 2025-2030, the Department will focus on understanding and managing fisheries for a rapidly changing Idaho. Establishment and expansion of nonnative predatory fishes is a primary challenge. In addition, reductions in water quality and quantity continue to affect Idaho fish populations. The Department will continue to engage with stakeholders to limit effects where possible. Conflicts associated with increasing recreational use are also expected and will require additional attention. The Department will remain committed to addressing these challenges to maintain or improve high quality fishing opportunities and conserve native species throughout Idaho.

How To Use This Document

The plan is divided into two parts:

1. Part 1 of this plan provides an overview of the Department's fisheries programs on a statewide basis, and provides Department goals, objectives, and preferred outcomes. Department policies and fisheries management programs are described. Statewide issues and programs are discussed, and strategies are identified to achieve objectives.

2. Part 2 of this plan is organized by major drainages. A narrative overview describes the location, gives pertinent statistics on use, land management activities, demographics, and describes the habitat and important fisheries locally. Narratives include the most recent information on management issues, challenges, opportunities, and general objectives for each major water body. Objectives for smaller water bodies (e.g. high mountain lakes, community ponds) are only described if they will be the focus of staff attention or if they substantially differ from programmatic or statewide direction. This part of the plan is intentionally broad and focused on fishery or conservation objectives and preferred outcomes rather than specifics like angling regulations or stocking strategies, allowing for adaptive responses to changing biological, temporal, and social climates.

PART 1 – STATEWIDE MANAGEMENT

Accomplishments from 2019-2024

The following table describes primary accomplishments that occurred during the period of the previous statewide fisheries management plan. Accomplishments are organized under generalized objectives.

Table 1. Summary of accomplishments by program from the 2019-2024 planning period.

Category	2019-2024 Accomplishments
Improve aquatic habitat condition	Implemented 27 restoration projects that improved channel and riparian conditions for a minimum of 41 stream miles in the Lake Pend Oreille, Potlatch, Blackfoot, Bear, South Fork Snake, Henrys Lake, Upper Salmon, Pahsimeroi, Lemhi, and North Fork Salmon drainages
	Expanded capacity to restore aquatic habitat in non-anadromous drainages and the Upper Salmon River basin by funding and hiring two new aquatic habitat restoration positions
	Increased annual funding administered through the Aquatic Habitat Restoration Program by attaining additional and larger grants. Funding increased from $4-6 million annually in 2019-20 to $9-12 million annually by 2023-24
	Secured fee title for two parcels adjacent to the Lemhi River totaling 63 acres to conserve salmon and steelhead. Stream channel and riparian areas will be enhanced through Department habitat restoration efforts
	Developed tools and partnerships to better understand and address fish and other aquatic organism passage at road crossings
	Completed several habitat improvement project and barrier removals in the Willow Creek Drainage leading to increased abundance of Yellowstone Cutthroat Trout

Conserve resident native game fish species	Continued efforts to suppress incompatible introduced species through angler incentive or manual removal in important fisheries such as Upper Priest Lake, Lake Pend Oreille, and the South Fork Snake River
	Planned or executed chemical renovation projects in three waters to reduce or eliminate nonnative trout and expand distribution of native trout
	Developed and assessed the use of YY Trout to extirpate Brook Trout in streams and lakes to allow for restoration of native trout populations. Facilitate quicker learning and more conservation outcomes by developing a multi-state consortium
	Updated management plans, species status assessments, or conservation agreements for Bonneville Cutthroat Trout, Bull Trout, Snake River White Sturgeon, and Yellowstone Cutthroat Trout
	Identified a unique genetic lineage of Redband Trout in the Big Wood River drainage
	Restored limited harvest opportunity for native Cutthroat Trout in Bear Lake after habitat restoration and suppression of non-native trout led to increased abundance
	Restored fishing and harvest opportunity for Burbot in the Kootenai River in collaboration with the Kootenai Tribe of Idaho and British Columbia Ministry of Forests
	Completed an evaluation of non-native Rainbow Trout with native Cutthroat Trout in the South Fork Snake River that demonstrated the efficacy of conservation strategies
	Organized and participated in an ongoing multi-partner work group assessing management options to mitigate for native species impacts associated with walleye invasion above Lower Granite Dam
	Conducted extensive evaluation of native Bull Trout and non-native Brook Trout interactions in numerous drainages within Idaho
Provide a diversity of angling opportunity	Completed additional studies and modeling exercises to better understand the status of White Sturgeon populations upstream of Shoshone Falls as a step for determining whether harvest fisheries may be allowed
	Provided fishing opportunity for species not typically stocked or produced by Idaho hatcheries through partnership with other states. Species produced included Tiger Muskie, Tiger Trout, Grayling, Walleye, and Golden Trout
	Restored trophy-size Gerrard Strain Rainbow Trout in Lake Pend Oreille and increased and diversified fishing opportunity by allowing catch-and-release opportunity during the spring
	Assessed several sources of Westslope Cutthroat Trout and early Kokanee eggs to determine whether fisheries could be improved by higher total egg collection or better in-hatchery performance
Improve fishing and boating access	Operated and maintained 356 access sites including 189 fishing and 167 boating sites statewide
	Developed new fishing and boating access sites including Scotts I & II (SF Clearwater River), Stonebraker (Cascade Reservoir), Birding Island (Payette River), Cherry Plant, Hammett and Karnes (Snake River), Antelope Creek, and Johnson Pond, among others
	Improved access by substantially renovating sites at Shepherd Lake, Morton Slough (Pend Oreille River), Tolo Lake, Black Sands (CJ Strike), Silver Creek West, Lava Point (Magic Reservoir), Grand View and Cedar Draw (Snake River), Twin Bridges, Deer Gulch, and North Fork (Salmon River), and Kids Creek Pond
	Updated mapping tools on the Department's website and Fish Planner to allow the public to locate access sites owned by the Department and other public entities.

Enhance opportunities at community fishing waters	Worked with private individuals and local municipalities to create or enhance community fishing water opportunities. Efforts were advanced or completed at Caldwell Gun Club, Dick Knox, Elk City, Freedom Park, Hordemann, Juliaetta, Lewis, Mariposa, Molenaar, and Palisades Dam Community ponds
	Refined stocking strategies to ensure that limited hatchery resources were stocked at times and places that resulted in high utilization or harvest
	Enhanced Community Fishing Waters by translocating fish (bass, bluegill, catfish) to establish self-sustaining populations or augment fishing opportunity
	Increased the average size of catchable hatchery trout in community points to improve returns and angler satisfaction
	Maintained six-fish bag limits at community ponds based on results demonstrating that more restricted harvest did not improve catch rates
Recruit, retain, and reactivate anglers	Annually used paid advertising to promote fishing and aid in recruitment, retention, and reactivation efforts, including development of gofishidaho.org
	Implemented “Vamos a Pescar” fishing events with community partners across Southern Idaho to promote fishing within the Hispanic community, including translating Family Fishing Water brochures into Spanish
	Developed fishing exhibit in partnership with the Children’s Museum of Idaho to introduce fishing, local fishing opportunities, and aquatic education to youth of the Treasure Valley Implemented rod loaner program in 15 Idaho State Parks across the state
	Analyzed license buyer database to identify lapsed anglers and implemented strategic email campaigns to encourage future participation in fishing
	Developed and distributed a “Learn to Fly Fish” video series to teach anglers where fish live, entomology, equipment, and fly casting
	Implemented paid Search Engine Marketing (SEM) to allow anglers to more easily locate the fishing information they are looking for
Enhance Wild Trout Fisheries	Partnered to enhance several high-profile fisheries, provide access, and restore habitat. Efforts included the Priest River Watershed Group, The South Fork Boise Watershed Collaborative, Project Big Wood, Silver Creek Alliance, and Henrys Fork Foundation
	Implemented annual hazing efforts at Island Park Reservoir and Silver Creek to reduce predation of Trout by American White Pelican
	Demonstrated that increases in mortality caused by fishing during elevated water temperatures are offset by decreased catch, indicating hoot owl regulations would not benefit trout and would result in lost fishing opportunities
Enhance hatchery-supported fisheries	Produced and stocked 180M fish (or about 30M annually) which included 67M salmon, 36M steelhead, 34M trout, 43M kokanee, and 10,000 sturgeon
	Improved hatchery infrastructure by completing more than $5 million worth of deferred maintenance to enhance or maintain fish production. Projects included spring capture structure at Cabinet Gorge, raceways and settling pond redesign and construction at Nampa Fish Hatchery, as well as replacement of fish transport trucks and tanks, water delivery pipelines, pumps, chillers, residences, and offices at several facilities Completed studies to assess the optimal size at stocking and integrated into hatchery stocking programs
	Increased Rainbow Trout stocking for American Falls Reservoir through purchase of fish by Idaho Power Company to offset turbine strike mortality. This mitigation resulted from Department engagement in the Federal Energy Regulatory Commission relicensing process
	Constructed a new rearing pond at Cabinet Gorge Hatchery to improve condition of and production of Westslope Cutthroat Trout

Conserve or restore runs of anadromous salmon and steelhead	Implemented an electronic tagging (e-tagging) option for salmon and steelhead anglers to tag harvested fish on a mobile device allowing more accurate harvest estimates in anadromous fisheries
	Continued involvement in cooperative pinniped management and removal below Bonneville Dam to limit predation of adult salmon and steelhead
	Continued refinement and implementation of genetic tools (Parental Based Tagging and Genetic Stock Identification) to more accurately reconstruct and manage adult salmon and steelhead
	Secured water rights to allow for the release (and assured delivery) of stored water in Spring Valley Reservoir to improve habitat for steelhead
	Facilitated the Clearwater River Fisheries Working Group comprised of a diversity of angler types which resulted in collaborative development of recommendations for management of the Clearwater River's anadromous fisheries
	Evaluated management strategies that balanced ensuring persistence of steelhead populations and providing sustainable angling opportunity
	Partnered with University of Idaho to estimate encounter rates and catch and release mortality in Idaho's steelhead fishery
	Continued to operate wild fish monitoring program to evaluate status of populations relative to salmon and steelhead escapement goals
	Maintain wild management only in select drainages within the Salmon and Clearwater River basins
	Used acclimation of Springfield Hatchery Sockeye Smolts at Sawtooth Hatchery to improve post-release survival
	Demonstrated the capability of using naturally produced Chinook Salmon in hatchery broodstocks (integration) to supplement wild/natural populations and increase returns
	Continued to integrate broodstocks and supplement wild/natural populations at select locations
Educate, engage, and inform anglers	Produced hundreds of outreach materials (e.g. blogs, press releases, articles) to inform the public of a wide variety of Fisheries Bureau programs including management, hatchery, research, habitat, and access
	Utilized virtual meeting technologies and YouTube to provide the public more opportunities to engage with Department staff or provide input
	Attended and participated annually in several regional or larger fishing workshops or expos, where staff engaged with anglers and answered questions
	Utilized social media platforms (e.g. Facebook, Instagram, X) on an at least weekly basis to share information as well as to encourage participation in fishing, engagement, and comment opportunities
	Developed video content to highlight Fish Habitat Program, fisheries monitoring, and native fish conservation
	Conducted Angler Opinion Survey to inform department of angler preference regarding fish management topics to inform the Statewide Fisheries Management plan and future processes
	Routinely updated regional waterbody stocking schedules and results on the Department website and Fishing Planner to inform anglers
Simplify and standardize fishing seasons and rules.	Continued to eliminate unnecessary seasons and rules exceptions from the fishing proclamation with a net reduction of XX and XX exceptions from the 2019-2021 and 2022-2024 booklets, respectively

	Incorporated Fall Chinook and Coho Salmon seasons and rules into the triennial statewide seasons and rules booklet
	Completed review and editing of the Department's IDAPA Rules chapters 6, 11, and 12 in adherence to the Governor's Red Tape Reduction Act resulting in a substantial reduction in word count, complexity, and regulatory burden
	Substantially redesigned the format and layout of the forthcoming 2025-2027 Seasons and Rules booklet to increase comprehension and usability
	Developed seasons and rules pages and interactive maps on the Department website for updates on salmon and steelhead fisheries
Improve knowledge of native nongame fish species	Completed summaries and assessment of nongame (and game) species status for inclusion in Idaho's State Wildlife Action Plan
	Developed a position and operating funding to focus (part-time) on non-game species conservation through nongame license plate funding sources
	Expanded knowledge of nongame species distribution and abundance through traditional survey techniques, collection of voucher specimens, and analysis of eDNA samples in multiple drainages across the state
	Conducted eDNA sampling in southern Idaho drainages to increase information on Green Sucker and Northern Leatherside Chub distribution
	Designed and funded a now on-going research project to better understand the distribution, status, and threats for Idaho's nongame fishes
	Developed an Idaho Fish Voucher Specimen GIS tool to map native non-game fish distribution information and identify data needs

Goals

The Fisheries Bureau's goals are straightforward and well aligned with the Department's mission.

These goals are to:
- Conserve native species
- Maintain or improve recreational fishing opportunities.

More specificity is necessary to conserve species and manage fisheries which is provided in Part 2 beginning on page 76.

Statewide Fisheries Management Principles

Long-standing principles guide staff in accomplishing the Department's mission and the objectives of this plan.

Management Direction

1. The fish resources of Idaho belong to the residents of the state. While regional and national interests may be considered, these resources will be managed primarily for the recreational and other legitimate benefits of Idaho residents.

2. The Department will recommend that the substantial economic and intrinsic values of fish and fisheries receive adequate consideration in land use and water management decisions.

3. The Department will use the best available biological and sociological information to make or inform resource use decisions.

4. Native populations of resident and anadromous fish species will receive priority consideration in management programs.

5. Management programs will emphasize maintenance of self-sustaining populations of fish and focus on identifying and ameliorating limiting factors.

6. The Department will strive to maintain or improve the genetic integrity of native stocks of resident and anadromous fish.

7. Species that are deemed detrimental to native populations or recreational fisheries will be removed or suppressed where feasible.

Resident Fish Stocking

1. The hatchery program will be managed to maintain or reduce cost while maintaining or increasing benefits to anglers. Efficiency will be determined by assessing production and transport costs, post-stocking survivals, return to creel, satisfaction, and economic factors.

2. Fish stocking strategies such as size, timing, and location will be adjusted to maximize survival and angler benefits.

3. Stocking events with consistently poor survival, little angler benefit, or little benefit to native species will be terminated and resources will be re-allocated to other waters.

4. The Department will only stock sterile fish at locations where hatchery fish have substantial potential to negatively affect the genetic integrity of native populations.

5. The Department will only stock public waters or those private waters that are reasonably accessible to the public.

Public Involvement

1. The Department will interact and engage with anglers and others through frequent communication, education, and outreach efforts to foster productive working relationships.

2. The Department will seek to better understand angler opinion, perception, and preference through periodic formal surveys and other interactions.

3. The Department will involve the public during the development of management plans and rules, as well as season setting by offering comment opportunities, considering them, and by providing public input summaries to decision makers.

Fishing Seasons, Limits, and Rules

1. Within the range of biologically sound alternatives, the Department will consider legal and economic factors, desires of the public, social acceptability, and administrative feasibility when promulgating season, limits, and rules.

2. Seasons, limits, and rules will be designed for fairness, simplicity, stability, and will include only those restrictions necessary to meet management objectives.

Angler Access

1. On land open to the public, the Department will strive for access that provides a variety of fishing-related recreational opportunities while not detracting from habitat or population management objectives.

2. The Department will cooperate with anglers, landowners, and land managers to minimize negative impacts of outdoor recreation on public and private lands to ensure continued availability for recreational fishing access.

3. The Department will pursue the acquisition of key areas for providing angler access. Priority will be placed on locations where lack of access is a key limitation for anglers.

4. Department funds will not be used to manage access to private waters unless public access is sufficiently guaranteed through a formal agreement.

Fish Importations and Fish Introductions

1. Importation of fish or other aquatic organisms, within the Department's authority, will be regulated to minimize negative consequences that might be associated with the establishment of new species, diseases, or parasites.

2. Introduction of new fish species may be considered when a) substantial benefits are anticipated; b) sufficient and suitable habitat is available; c) impacts to native species and existing sport fisheries are benign; and d) where necessary, approval is obtained from appropriate agencies or private landholders. The Department will adhere to the American Fisheries Society recommended seven-step process for evaluating risks and benefits of new species introductions before authorizing the introduction to Idaho waters.

Cooperation with other Agencies

1. Agreements with other agencies will be developed to ensure cooperative management of fish resources shared in common. The Department will work with neighboring states and Canadian provinces and consult on issues of mutual interest regarding fisheries management and aquatic ecosystems in shared waterways.

Native American Tribes

1. Native American treaty rights will be recognized in the management of fish and fisheries resources. Treaty rights vary by tribe and interpretation of those rights among tribes is also variable. Within the scope of their respective treaties, the Department will continue to coordinate with tribal governments and tribal fishery staff to monitor fish populations, improve fish habitat, plan and implement fisheries, implement hatchery releases (where appropriate for fishery and conservation needs), and conduct fishery enforcement activities.

Outfitting and Guiding

1. The Department will work collaboratively with the Idaho Outfitters and Guides Licensing Board (IOGLB) as detailed in the 2021 Memorandum of Understanding or any subsequent versions of this agreement.

2. The Department recognizes and acknowledges conflicted angler opinions regarding Outfitting and Guiding for fishing on the state's waters. The Department will comment

accordingly to the IOGLB or appropriate land management agency on the issuance of outfitting licenses or special use permits.

3. The Department will not recommend issuance of licenses or special use permits where impacts to fisheries resources are biologically unacceptable or the opportunity for non-guided public recreation is significantly impaired.

4. The Department will request that outfitting licenses be specific to individual waters so that outfitting activities can be customized to fit social and biological needs.

5. The Department will not place additional fishing restrictions on outfitters that are not already required of the public without specific Commission approval.

Habitat Restoration and Protection

1. The Department will work with partners to identify, fund, and implement high-priority habitat projects which protect, enhance, connect, and restore aquatic habitats.

2. The Department will monitor effectiveness of aquatic habitat restoration actions in key areas to demonstrate benefits and refine restoration strategies.

3. The Department will seek stable long-term funding sources for fish habitat staff, implementation projects, and effectiveness monitoring.

4. The Department will review and make recommendations on activities that result in significant loss or degradation of aquatic habitats or important recreational fisheries. This includes recommending best management practices, developing protective work windows for in-stream projects, and developing ecologically based flow recommendations that maintain or improve fish habitat and fish populations.

5. The Department will participate in the Federal Energy Regulatory Commission (FERC) process for licensing hydroelectric projects to ensure that adverse effects to aquatic resources are avoided, minimized, or appropriately mitigated.

Mitigation

1. The Department will provide Technical Assistance to decision-making authorities and development interests when impacts to fish habitats or populations are likely.

2. Recommendations for protection of habitats and populations through avoidance of impacts will be sought as the preferred alternative during project design (method, location, timing, etc.) and permitting phases.

3. Recommendations for minimization of impacts to habitats and fish populations will be sought when goals of the proposal are not achievable without impacts. Modifications to projects which will reduce, but not eliminate impacts are the next most preferred strategy. Subsequent mitigations for unavoidable impacts will be sought.

4. Recommendations for mitigations (replacements of habitats and fish lost to project effects) should be recommended after avoidance and minimization strategies are employed. In priority order, mitigations will be:

a. Acquisition and improvement of alternate habitat is the primary strategy sought for long-term losses caused by habitat elimination or degradation. This form of mitigation should be permanent and include assurances necessary for annual operations, maintenance, and monitoring.

b. Mitigation to replace habitats and habitat values lost should be as nearly equivalent in kind (function) and in location (proximity) as possible. Mitigations of habitat replacement out-of-kind or off-site are less preferable.

c. Mitigations in the form of off-site and out-of-kind efforts may take any form of fisheries restitution and enhancement projects deemed agreeable to all parties.

d. Mitigation as financial restitution for impacts is the least preferrable strategy. This form of mitigation is the least likely to be directly translated into the Department's Mission. Where applicable, the Department will use standardized methods and established valuation of fish species to calculate appropriate compensation levels.

e. Replacement of fish populations impacted by development may be sought as deemed appropriate, or fish losses may be mitigated by the habitat principles discussed above.

Statewide Fisheries Programs

The Fisheries Bureau is organized into four sections including Resident Fisheries Management, Anadromous Fisheries Management, Hatcheries (resident and anadromous), and Fisheries Research.

Resident and anadromous fisheries management sections are responsible for monitoring and managing fish populations to maintain or improve public fisheries; protect, enhance, or restore fish habitat; develop and maintain angler access; provide information and engage with anglers and other stakeholders; and develop fishing season, limits, and rules. Fisheries management involves Department biologists, technicians, and others working in coordination with staff from state and federal agencies, Native American tribes, non-governmental organizations, and local governments.

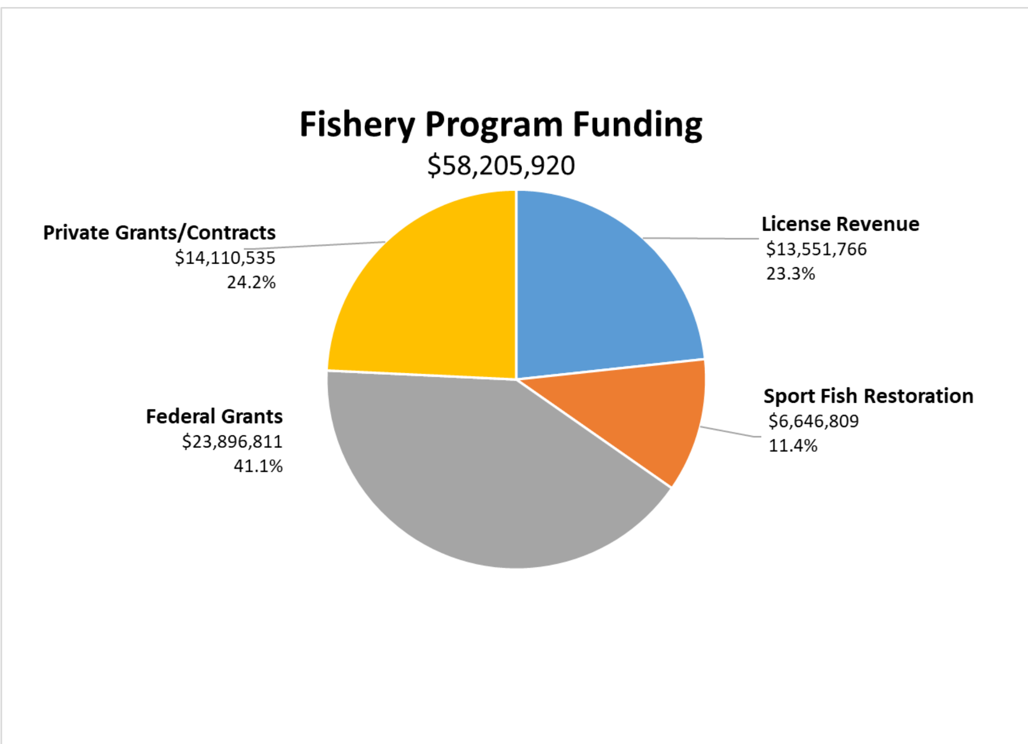
The fish hatcheries section raises, transports and stocks fish to meet fishery management objectives. Hatchery staff work with other state, tribal and private hatchery programs to coordinate hatchery operations and share egg and fish resources. The program raises healthy fish in the most cost-effective manner through refinement of fish rearing protocols and use of technologies. The hatcheries section works with fish health unit staff to identify and treat fish diseases and improve the health of fish in hatcheries. Fisheries management activities that rely on the hatchery program include put-and-take and put-grow-and-take fish stocking programs, salmon and steelhead fisheries, enhancing numbers of adults available for natural spawning, and production of other game fishes to provide or enhance fisheries.

The fisheries research section enhances fisheries management capabilities by providing assessments of fisheries or programs and developing new technologies to address specific needs. The section includes the Eagle Fisheries Genetics Program and biometrician support. Fisheries research collects and analyzes biological and genetic data, assists in development of management recommendations, management methods, summarizes large-scale datasets, coordinates with other fisheries management and research entities and participates in species status assessments and trend analyses.

Successful fisheries conservation and management requires considerable cooperation within THE DEPARTMENT and includes the bureaus of Communications, Technical Assistance, Enforcement, Wildlife, as well as Administrative and Legal.

Funding of Programs

Budgets for the Fisheries Bureau's activities will be within the guidelines of this plan to support annual activities and objectives. The Fisheries Bureau budget is approximately $20.2 million annually from the sale of fishing licenses and through the Federal Sport Fish Restoration Program. Funds for the Sport Fish Restoration Program come from a national trust fund generated from excise taxes on fishing tackle, associated equipment, and motorboat fuels. The bureau also receives approximately $23.9 million in federal grant funds to address specific objectives, many of which are mitigation programs for salmon and steelhead. The bureau receives approximately $14.1 million annually in non-federal or private grants for specific mitigation and management objectives typically associated with hydropower mitigation. The three largest programs in the Fisheries Bureau by spending are the fish hatchery program, fishery management/fishery research, and fish habitat. Boating and fishing access, fish screens, and aquatic education constitutes the remaining 12% of the budget (**Error! Reference source not found.**).



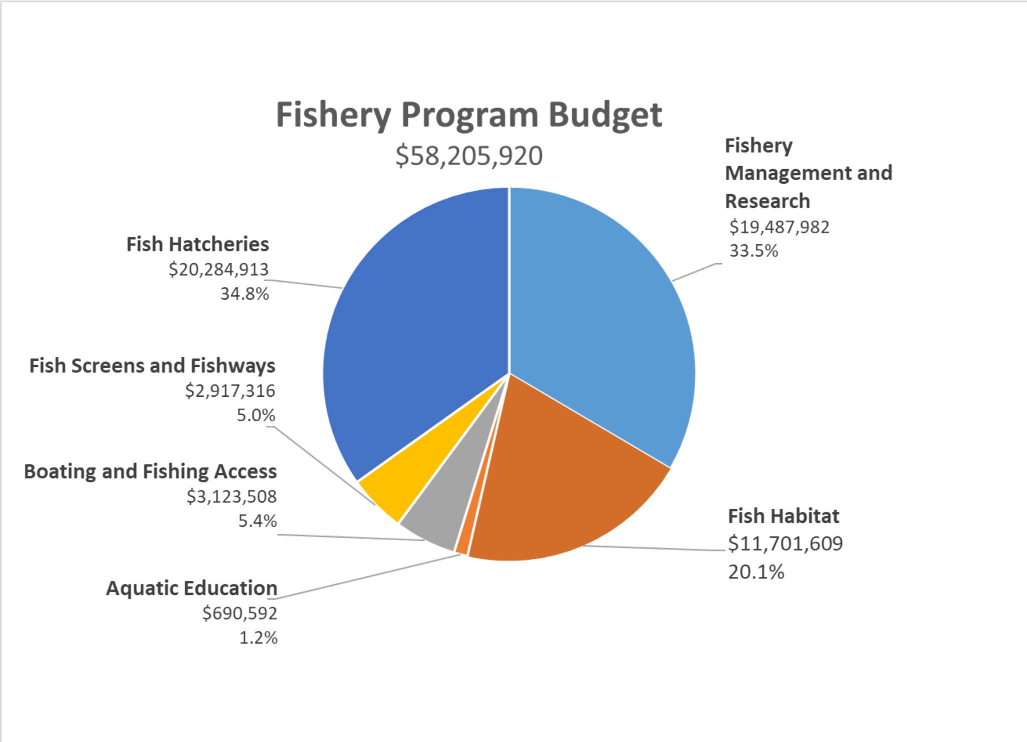


Figure 2. Fishery programs (top panel) and associated fund sources (bottom panel) for Fiscal Year 2025 for the Department's Bureau of Fisheries.

Resident Fisheries Management

Native Trout and Whitefish

Cutthroat Trout, Redband trout, Bull Trout and four Whitefish species are native game fish of Idaho. The three native subspecies of Cutthroat Trout are Westslope, Yellowstone, and Bonneville. The Redband Trout is a type of Rainbow Trout, and Bull Trout is the only member of the char family native to Idaho. The Department strives to protect and enhance native trout and whitefish populations to ensure long-term conservation and sustainable fishing opportunities. Native trout and whitefish are important to Idaho biologically because they evolved here and are best adapted to their historical waters; ecologically, because their presence is an indicator of the overall health of Idaho's waters; and socially, because Idaho anglers place a high value on native trout, though whitefish are less valued by anglers. Economically, self-sustaining native trout populations are less costly to manage than hatchery supplemented fisheries. Many anglers target native trout for their uniqueness and existence value, thus adding benefit to Idaho's economy. The Department, by statute, is the steward for Idaho's native fishery resources and works to protect and perpetuate these populations.

Starting in the early 1990s petitions to list Idaho's native trout under the federal Endangered Species Act (ESA) have been received. The ESA petition process kicks off a status review. Bull Trout were listed as threatened in 1998. The U.S. Fish and Wildlife Service (USFWS) determined that federal protection was not warranted for Westslope Cutthroat, Yellowstone Cutthroat, Bonneville Cutthroat, and Redband Trout because Idaho and surrounding states have effective conservation and management plans in place and can demonstrate that these species are secure.

The Department has progressively taken steps to conserve and manage native trout. Research in the 1960s and 1970s on the north Idaho waters of Kelly Creek, St. Joe River, and Lochsa River documented a benefit to Westslope Cutthroat Trout populations by reducing fishing-related mortality. Waters in the state that support native trout populations are typically managed to maintain low levels of fishing-related mortality which may require reduced bag limits, minimum size limits, or catch-and-release fishing regulations. The angling public continues to indicate that maintaining or restoring harvest opportunity is preferred where appropriate and the department will provide that opportunity on wild trout populations when consistent with persistence and sustainability of wild trout populations. Additional native trout conservation actions include: 1) discontinuing Department Brook Trout stocking program in native trout streams; 2) increasing Brook Trout bag limits; 3) using sterile Rainbow Trout for most stocking programs in native trout drainages to reduce hybridization risk; 4) reducing stocking adjacent to native trout populations; 5) promoting harvest of non-native Rainbow Trout and hybrids in waters managed for native trout; 6) implementing a number of non-native species suppression efforts across the state; and 7) establishing a fish genetics lab in 2002 to improve understanding of the genetic status of native trout. Considerable effort is focused on monitoring the status and distribution of native trout in Idaho to ensure their persistence and identify management opportunities. During this six-year period, the Department will prioritize native trout management by continuing to recommend and regulate necessary harvest restrictions, stock hatchery trout to avoid genetic consequences, suppress non-native fishes that are incompatible with native trout conservation, advance partnerships to conserve native trout species, and educate and engage anglers and other stakeholders in native trout conservation and management. The Department will continue to refine our understanding of factors driving whitefish abundance, especially for populations in decline.

Cutthroat Trout

It's no wonder that Cutthroat Trout *Oncorhynchus clarkii* were given the lofty distinction of being Idaho's state fish. Widespread, brilliantly colored, uniquely spotted, and emblematic of Idaho's wild rivers and mountainous landscapes, Cutthroat Trout hold a special place in the hearts of anglers fortunate enough to fish Idaho. The taxonomic organization of Cutthroat Trout into various species/sub-species remains in debate (see Markle 2018 and Trotter et al. 2018). Regardless of the taxonomic debate, the Department continues to manage cutthroat trout river basin scales that correspond largely with the distribution of the long-established sub-species described as Westslope Cutthroat Trout, Yellowstone Cutthroat Trout, and Bonneville Cutthroat Trout.

Historically, Cutthroat Trout populations were more numerous across Idaho and occupied larger ranges than their present distribution. Populations have been impacted across their ranges by a host of impacts including historical overfishing, habitat degradation, water management and associated infrastructure, and non-native species introductions. In Idaho, Bonneville Cutthroat Trout and Yellowstone Cutthroat Trout are classified as Species of Greatest Conservation Need given their reduced distribution and risks to their future persistence (IDFG 2024b). The Department has detailed individual management plans for the conservation of Yellowstone Cutthroat Trout (IDFG 2007a), Bonneville Cutthroat Trout (IDFG 2022), and for Westslope Cutthroat Trout (IDFG 2013). Additionally, Idaho is party to multi-state conservation agreements that coordinate conservation of these subspecies.

The Department will continue to ensure that Cutthroat Trout are considered in fisheries, land, and water management in their remaining habitat by collaborating with other agency partners and stakeholders, as well as by providing technical information to land and water management decision-makers. Emphasis will be placed on continuing our collaborative habitat restoration efforts with other agencies and stakeholders. Specific conservation actions are identified in the individual subspecies plans. More generally, during this planning period, the Department will continue to implement Cutthroat Trout conservation policies including:

- Continue managing recreational fishing to maintain robust populations
- Seek opportunities to improve habitat quality and connectivity through restoration, barrier removals and fish screening
- Reduce genetic introgression with non-native trout
- Work with water management partners to improve water quality and quantity
- Remove or suppress populations of non-native salmonids such as introduced Rainbow Trout and Brook Trout where feasible to benefit Cutthroat Trout
- Update the Interstate Conservation Agreement and Strategy documents for Yellowstone Cutthroat Trout and work with federal, state and tribal partners to implement
- Participate in developing a Yellowstone Cutthroat Trout range-wide status assessment
- Update the Idaho Yellowstone Cutthroat Trout Management Plan
- Resurvey long-term monitoring sites for Yellowstone Cutthroat Trout
- Participate in developing a range-wide status assessment for Westslope Cutthroat Trout
- Update the Idaho Westslope Cutthroat Trout Management Plan

Redband Trout

Rainbow Trout *Oncorhynchus mykiss* distributed to the east of the Cascade Range and Sierra Nevada are considered Redband Trout and show major genetic differences from coastal rainbow trout groups. Redband Trout are from three distinct major river basins: the upper Sacramento, Klamath, and Columbia rivers (Currens et al. 2009), with genetic and morphological data supporting subspecies recognition (Muhlfeld et al. 2015). Redband Trout are widely distributed across the interior Columbia River basin from east of the Cascades upstream to geologic barriers such as Shoshone Falls on the Snake River and Kootenai Falls on the Kootenai River and in the upper Fraser River. However, they are not present in the Clark Fork and Coeur d'Alene river drainages. Redband Trout are present in the Salmon and Clearwater drainages concurrent with steelhead. For management and conservation purposes and to avoid confusion with steelhead, the Department defines Redband Trout be as "populations above anthropogenic or natural barriers where the maintenance of an anadromous migratory trait is not currently possible" (IRCT 2016).

The distribution of Redband Trout has been reduced as a result of habitat degradation, fragmentation, and nonnative species introductions during (Thurow et al. 2007, Muhlfeld et al. 2015). Despite geographically broad distribution, Muhlfeld et al. (2015) estimated Redband Trout only occupy an estimated 41% of their historical stream distribution within Idaho. Currently, several interagency plans guide the management of Redband Trout, but an Idaho-specific plan has yet to be developed. During the 2007-2012 planning period, the Department completed an assessment of population structure and intra-/interspecific hybridization of Redband Trout above Hells Canyon Dam (upper Snake River, 8 basins, 61 sample locations) (Kozfkay et al. 2011). Additionally, the Department worked with multiple federal, state, tribal partners, and Trout Unlimited on two consecutive related documents to help guide Redband Trout conservation efforts. The first was the 2012 status assessment document (Muhlfeld et al. 2015) that described the current distribution, status, and conservation efforts throughout the western US. This status assessment concluded that Redband were still widely distributed but that their long-term persistence would depend on continued strategic conservations efforts (Muhlfeld et al. 2015). Following the 2012 status assessment, the Department again worked with a broad spectrum of stakeholders to develop the interior Redband Trout conservation strategy document (IRCT 2016). The Interior Redband Conservation Team (IRCT) conservation strategy is a long-term conservation agreement between state and federal agencies, Indian Tribes and Trout Unlimited and functions as a framework to identify, coordinate, and prioritize range-wide conservation efforts (2016).

Specific conservation actions are identified in the Redband Trout conservation strategy. More generally, during this planning period, the Department will continue to implement Redband Trout conservation policies including:

- Continue to work with federal, state, and tribal partners to implement conservation actions identified in the IRCT (2016) conservation strategy
- Cooperate to update the 2012 range-wide status assessment
- Seek opportunities to improve habitat quality and connectivity
- Continue managing recreational fishing to maintain robust populations
- Continue monitoring to improve understanding of distribution, abundance, and trends
- In areas where stocking is needed and overlap may occur, stock only sterile trout
- Maintain or reestablish connectivity of current Redband Trout metapopulations
- Complete a state Department Redband Trout management plan

Bull Trout

Bull Trout were federally listed as an ESA “threatened” species within the coterminous United States 1999 by the USFWS. Bull Trout remain widely distributed in Idaho. Although Bull Trout have declined in abundance and distribution in other western states, they are faring much better in Idaho than in other portions of their range, due to Idaho’s vast areas of connected rivers, and wilderness and roadless areas. They are especially abundant in the Salmon and Clearwater river drainages.

Bull Trout exhibit two distinct life history forms, resident and migratory. Resident populations generally spend their entire lives in small streams while migratory Bull Trout rear in tributary streams before migrating into larger river systems (fluvial life history) or lakes (adfluvial life history). Migratory Bull Trout can reach much larger sizes than resident fish. The largest Bull Trout recorded in Idaho is 32 pounds from Lake Pend Oreille, which is also a world record.

Bull Trout have specific habitat requirements and require cold clear water, abundant instream cover including woody debris and deep pools, and intact migration corridors. In many instances, habitat modification has influenced the status, abundance, and distribution of Bull Trout populations in Idaho. Because of habitat modification, the migratory form of Bull Trout is no longer present in some drainages and populations are comprised of resident fish.

Bull Trout do not compete well with other non-native chars such as Brook Trout and Lake Trout. Brook Trout can outcompete and hybridize with Bull Trout where overlap occurs. The latter threat is particularly true for small, isolated Bull Trout populations. Lake Trout also pose a serious threat to the adfluvial form of Bull Trout in larger deep lakes. Bull Trout numbers, along with other native game fish, have plummeted in Idaho lakes such as Priest Lake where Lake Trout and Mysis shrimp are present. In other similar systems like Upper Priest Lake and Lake Pend Oreille, suppression of Lake Trout has resulted in stable or increasing Bull Trout populations. Additional factors, including other non-native species, can also result in localized population declines, such as the severely depressed adfluvial Bull Trout population in Coeur d’Alene Lake. The Department will continue research and conservation actions to protect the long-term persistence of Bull Trout in Idaho.

Catch and release angling is allowed for Bull Trout in Idaho and does not represent a threat to populations. The Department adopted statewide “no harvest” rules for Bull Trout in 1994 to reduce direct fishing mortality. The Department has also developed an active public education program, including signage that notify anglers about the presence of Bull Trout and how to correctly differentiate them from other trout species. An enforcement presence is also maintained in drainages inhabited by Bull Trout.

The USFWS completed a Species Status Assessment and 5-Year Status Review for Bull Trout in the summer of 2024. For the Idaho portion of the distribution, particularly in the Pend Oreille, Clearwater, and Salmon river drainages, relatively few ongoing threats were identified and most populations displayed stable abundance trends. The Department will continue to work closely with the USFWS and other stakeholders in Bull Trout conservation and recovery planning and will advocate for de-listing those portions of the range where Bull Trout populations are secure and no longer in need of ESA protection. Additionally, ongoing coordination with federal land management agencies such as the U.S. Forest Service is critical due to significant overlap of federal lands across much of the Bull Trout habitat in Idaho.

Whitefish

Idaho is home to six species of Whitefish, five of which are native including: Bear Lake Whitefish, Pygmy Whitefish*,* Bonneville Cisco*,* Bonneville Whitefish, and Mountain Whitefish*.* Whitefish *Prosopium spp* are members of the family Salmonidae (subfamily *Coregoninae*). The five native whitefishes in Idaho are currently classified as Species of Greatest Conservation Need or Species of Greatest Information Need (IDFG 2024b) due to the unique endemic species, genetically unique populations in the Big Wood and Big Lost rivers, and declining populations in some watersheds. Pygmy Whitefish distribution includes Priest Lake, Upper Priest Lake, Spirit Lake, and Lake Pend Oreille. The “Bear Lake Endemics” are native to Bear Lake and include; Bear Lake Whitefish, Bonneville Whitefish, and Bonneville Cisco which are found only in Bear Lake. Management strategies for the Bear Lake Endemics are covered in the Bear Lake Management Plan (UDNR and IDFG 2008). The Lake Whitefish is the only non-native whitefish and is found in Lake Pend Oreille.

Mountain Whitefish are an important fishery resource in Idaho and are the most common and widespread whitefish species. Mountain Whitefish are found in rivers and some lakes, and require cold, clean water. Although present in some small streams, they are more commonly found in mainstem, low-gradient mid to large streams (Meyer et al. 2009). Mountain Whitefish are classified as gamefish in Idaho but were historically thought to limit trout populations. From the 1950s to the 1970s, there were management programs aimed at reducing their numbers (Pontius and Parker 1973; Fuller 1981; DosSantos 1985). Since the 1950s, the Department has promoted Mountain Whitefish angling as a good winter fishery, when most trout fishing activity has slowed down.

Mountain Whitefish have been managed with relatively high bag limits. As recently as 2006, Mountain Whitefish were observed in robust numbers in many drainages (see Meyer et al. 2009) however, Mountain Whitefish populations have declined in many drainages across Idaho including the South Fork Snake, South Fork Clearwater, South Fork Salmon, Lower Salmon, Lower Henrys Fork, and Lower Payette rivers (Roth et al. 2022). Mountain Whitefish have largely been extirpated from the Weiser River, and sections of the lower mainstem Snake River. Causes for declines are currently unknown but likely include: habitat fragmentation, stream flow and temperature changes, water quality, disease, and non-native species interactions. Restrictive fishing regulations were established in the Big Lost River to ensure angling mortality does not prevent the populations from recovering (IDFG 2007b). The Department will work to further understand the reasons for declining populations.

Mountain Whitefish are managed as a single species. Advances in genetic monitoring has identified two major lineages of Mountain Whitefish in Idaho aligning with geography: (1) Upper Snake River/Bonneville Basin; (2) Lower Snake/Columbia River Basins. Two sub-lineages include the Wood River and Lost River drainages which, while geographically adjacent, were colonized by two separate events and have been isolated long enough from other Whitefish populations to become highly divergent. Mountain Whitefish in Idaho will continue to be managed with these lineages in mind to preserve within-species diversity and the local adaptations accompanying that diversity.

Research into underlying causes of localized Mountain Whitefish population declines as well as conservation actions to reverse the declines is needed. Conservation actions that address river flows and water conservation are ongoing and will continue to be implemented. The Department will continue collaborating with other agencies and stakeholders to monitor population status, restore habitat, assess disease risk, and work towards obtaining biologically beneficial river and stream flows. Additionally, the Department will continue to implement specific conservation actions for Big Lost River Mountain Whitefish described in the Mountain Whitefish Conservation and Management Plan for the Big Lost River Drainage (IDFG 2007b).

White Sturgeon (Snake and Kootenai Rivers)

Life History and Species Description

White Sturgeon are the largest freshwater fish in North America. The original range of White Sturgeon in the Snake River extends from its confluence with the Columbia up to Shoshone Falls, and major tributaries such as the Salmon and Clearwater rivers. The Department manages Snake River White Sturgeon based on geographical range falling into two major sections: (1) the Snake and lower Salmon River and Snake rivers from Lewiston to Shoshone Falls (native), and (2) the Snake River above Shoshone Falls (introduced). White Sturgeon are also found in the Kootenai River and are currently ESA listed as “endangered”. The current Kootenai White Sturgeon population does not reproduce successfully and is supported by a conservation hatchery program.

White Sturgeon life history is unique with spawning delayed until 10-15 years old. Spawning is periodic, occurring at several-year intervals as substantial energy accumulation is needed for gonadal development. White Sturgeon spawn during spring high river flows often in turbulent canyon reaches of large rivers. A combination of streamflow conditions including current, turbidity, and turbulence as well as distance of free-flowing river downstream are necessary for successful spawning and larval survival. Growth rates to adulthood are dependent on temperature regimes, food resources, and other factors. White Sturgeon feed on a variety of food items including fish, macroinvertebrates, crustaceans, and bivalves. Larval and small juvenile sturgeon may be highly vulnerable to predation by other fishes; however, natural mortality rates of large juvenile and adult sturgeon are typically low, allowing some individuals to reach old ages (possibly exceeding 100 years).

Historical Declines

Historical White Sturgeon populations data exist only from anecdotal accounts; however, historical abundance is assumed to have been higher than present abundances. Many of the habitat conditions that contributed to the currently depressed state of Idaho’s sturgeon populations are complex, difficult to fix, and “continue posing significant challenges to achieving natural populations in the middle Snake River" (IPC 2016). Population declines are likely due to a combination of factors including overfishing, habitat destruction, water quality, bioaccumulation of contaminants, and ecosystem changes. Habitat fragmentation due to dams is the primary factor in successful sturgeon spawning declines. Dam construction and changes to river habitat have blocked migrations, altered flows, water temperatures, and nutrient regimes, and fragmented populations. In the Snake River, sturgeon populations are segregated into nine separate reaches. Changes in the annual, seasonal, and daily flow regimes and patterns of water management and hydropower operations reduce peak flows, shift flow timing, and reduce sturgeon spawning and recruitment. Two river reaches in Idaho currently have viable naturally reproducing White Sturgeon populations: Bliss Dam to CJ Strike Reservoir and Hells Canyon Dam to Lower Granite Reservoir. White Sturgeon in other reaches are supported by hatchery stocking or a combination of hatchery stocking and downstream drift of wild sturgeon from upstream areas. While spawning may occur annually, recruitment occurs less often.

Snake River Population(s) Management

Management of White Sturgeon in the Idaho portion of the Snake River is directed by the 2024 Snake River White Sturgeon Management Plan (IDFG 2024a). The plan classifies sturgeon management into three categories: core, stocked, and non-native range. The plan prescribes that sturgeon abundance in individual reaches be maintained through natural recruitment (core wild) or hatchery stocking (stocked and non-native range). The Nez Perce Tribe (NPT) also completed a White Sturgeon Management Plan for the Hells Canyon Dam to Lower Granite Dam portion of the Snake River (NPT 2005). As a result of hydropower licensing permits for the middle Snake River projects (between Shoshone Falls and the Hells Canyon Complex), Idaho Power Company (IPC) implements protection, mitigation, and enhancement activities to benefit White Sturgeon in the Snake River. The management plan for Snake River White Sturgeon provides guidance for IPC's monitoring and research priorities (IDFG 2024a). State, federal and tribal agencies have also collaborated with IPC to develop a conservation plan for the Snake River as part of FERC relicensing requirements for their Snake River hydropower system. Idaho Power Company's (IPC) efforts, guided by their conservation plan, are intended to mitigate for the operational impacts of its hydropower projects on White Sturgeon throughout the Snake River.

The Department's management goal for Snake River White Sturgeon is to preserve, restore, and enhance populations capable of providing sport-fishing opportunities. The Department White Sturgeon plan emphasizes the following management activities to achieve this goal:

1. Habitat protection and enhancement— the most effective approach to maintaining healthy, reproducing White Sturgeon populations is to protect stronghold populations and intact habitat, and as is feasible, to improve habitat. We will continue to provide technical support and input to state and federal regulatory agencies on land and water management activities and proposals.
2. Population monitoring— assessments of White Sturgeon abundance and size structure will occur in individual river reaches at approximately five- to ten-year intervals. IPC will perform the bulk of the population survey work but will be supplemented by the Department and NPT as necessary.
3. Evaluate fishing-related mortality– the Department will continue to assess White Sturgeon angling effort and catch in relation to population status and trends for key river reaches.
4. Fishing regulations, angler education, and enforcement—the Department will continue to recommend seasons, rules including gear restrictions, and handling techniques that minimize mortality. The Department will continue to develop and distribute information on

White Sturgeon status and proper handling. Conservation officers will continue to educate the public and ensure compliance.

5. Translocation—the Department will collaborate with IPC and other agency and tribal stakeholders in the translocation of wild White Sturgeon with a goal of artificially restoring some degree of connectivity between river reaches.
6. Conservation aquaculture—while the top priority of the Department is the conservation of wild, self-sustaining populations of White Sturgeon, in reaches where natural recruitment is absent or minimal, stocking is a viable management option.
7. Commercial aquaculture—the Department will work with the Idaho State Department of Agriculture to monitor commercial aquaculture operations with respect to importing non-native White Sturgeon into their hatcheries. Sturgeon are also regularly purchased by private pond owners for ornamental purposes in southern Idaho.
8. Mortality monitoring—the Department and IPC have established protocols for investigating, examining, and collecting appropriate samples from mortalities when possible.
9. Harvest—the Department will work with stakeholders to determine whether and where limited sturgeon harvest may be appropriate.

The Department strongly emphasizes natural recruitment as the optimum strategy for maintaining or increasing sturgeon abundance in Snake River reaches. However, in the absence of environmental conditions for successful natural recruitment, the Department supports stocking using the best available conservation aquaculture techniques to achieve population abundance and recreational fishing objectives. IPC has developed a conservation aquaculture facility as part of their hydropower operating permit mitigation requirements. Until the factors limiting natural productivity can be addressed, “utilizing conservation aquaculture in the interim is an essential tool for supporting recruitment-limited White Sturgeon populations in the middle Snake River”. The Conservation Aquaculture Plan for White Sturgeon in the middle Snake River (IPC 2016) details the implementation of this program and follows the policies regarding stocking hatchery sturgeon laid out by the Department.

Catch and Release Fishing

White Sturgeon are extremely long-lived, slow growing, late maturing, and have infrequent reproduction. As such, small increases in mortality lead to population declines. Due to declining population trends, commercial harvest and recreational harvest of sturgeon in Idaho was prohibited in 1943 and 1971.

Catch-and-release fishing for sturgeon is very popular. The Department has conducted studies to assess fishing effort, catch frequency, and potential impacts of catch and release angling such as deep hooking rates and ingestion of tackle (i.e. hooks and swivels). Results from this work found some sturgeon are caught often, that anglers rarely deep hooked sturgeon, and ingested metal passed relatively quickly. Based on this research, no changes to fishing seasons or rules were recommended at the time. In 2022 a sturgeon mortality event, coincident with high water temperature, low dissolved oxygen, and recreational fishing, caused sufficient concern that an emergency sturgeon fishing closure was implemented in the area of mortality. The Department will continue to monitor catch and release angling in high effort fisheries or reaches with impaired water quality and will adjust fisheries if necessary. In addition, the Department will educate anglers about low-impact sturgeon angling, handling, and release techniques.

Hatchery stocking in non-native reaches

White Sturgeon in the Snake River upstream of Shoshone Falls (i.e. outside their native range) were stocked to create additional fishing opportunities. The Department partnered with the University of Idaho to evaluate these populations, assess stocking rates needed to maintain abundance, and model population response to various levels of harvest opportunity.

Action Items

The Department will collaborate with IPC, Oregon, Washington, federal agencies, and tribal governments to implement and monitor mitigation efforts for White Sturgeon. The Department will work with partners to estimate spawning flow triggers (volume, duration, and timing) which result in successful sturgeon reproduction, investigate tools to improve survival from juvenile to adult life stages, and develop models to predict spawning intervals and growth rates needed to maintain or increase sturgeon abundance in Core Wild reaches. We will continue to work collaboratively to improve water quality and habitat conditions in reaches with documented impacts on sturgeon. The Department will assess angler interest in limited harvest opportunities for sturgeon on hatchery origin sturgeon.

Landlocked Salmon

Kokanee, Chinook Salmon, and Coho Salmon have been introduced in some lakes and reservoirs where there is no opportunity to migrate to and from the ocean, hence referred to as "landlocked". Stocking efforts use fingerling size fish and therefore under ideal conditions may be cost effective. Initial introductions have established some self-sustaining populations, but most waters require stocking to maintain fishery quality.

Kokanee are the landlocked form of Sockeye Salmon and feed primarily on zooplankton. Non-native populations and fisheries have been created by stocking one of two strains. Strain designations, early or late, refer to differences of spawn timing in fall, but other biological differences exist. Kokanee have a short lifespan and mature and die at ages 2 to 4. Kokanee can produce high yield fisheries, support high amounts of fishing effort, but often exhibit boom-and-bust cycles. Kokanee exhibit strong density dependence, meaning at high densities kokanee grow slowly and produce fewer eggs. Smaller fish are not as valued by anglers due to reduced catchability. At low densities, kokanee can grow to much larger sizes at reduced catch rates. Density dependent growth combined with environmental fluctuations leads to instability and fluctuations in population abundance, size, and kokanee fisheries quality. The Department strives to provide more consistent fisheries by managing kokanee spawning escapement, predation, and harvest and stocking hatchery kokanee when needed. The majority of Idaho's kokanee eggs come from wild trapped broodstock at Lake Pend Oreille (late strain), Payette Lake (early strain), or Deadwood Reservoir (early strain), leading to hatchery stocking of several million kokanee annually. Recently, early strain kokanee egg collections have been below management targets due to a population collapse in Deadwood Reservoir. The Department will work to increase the availability of early strain kokanee eggs during this planning period and fine-tune stocking practices to maximize survival as well as minimize effects of non-native predators.

Landlocked Chinook Salmon have been stocked in large reservoirs and lakes throughout Idaho with limited success. Generally, landlocked Chinook Salmon are stocked when a high-density food source is present, primarily kokanee. Even during optimal conditions, Landlocked Chinook Salmon populations remain at low densities and are infrequently caught. However, Landlocked Chinook Salmon may reach trophy sizes and offer a highly desired trophy opportunity. The Department has greatly reduced the number of waters stocked with Chinook Salmon after years of experimentation with strain, size at release, and timing of release failed to produce consistent fisheries. Furthermore, high density kokanee populations that landlocked Chinook Salmon need to grow well are rare, are of high value to anglers, and may act as a source for kokanee eggs; therefore, the Department is unlikely to expand stocking for landlocked Chinook Salmon during this planning period.

Within the last two decades, landlocked Coho Salmon have been stocked in Cascade Reservoir. Coho Salmon have good in-hatchery performance and post-stocking survival, possibly due to being produced by wild parents, high disease resistance, and the ability to utilize a variety of food sources. Coho Salmon eggs are excess from anadromous programs and inconsistent egg availability limits program expansion.

Non-native Game Fish

Non-native game fishes include coldwater, coolwater, and warmwater fish introduced to Idaho as long as a century ago. Non-native game fish provide important and popular fisheries.

Non-native trout species include; Rainbow Trout (outside native range), Brown Trout, Brook Trout, Lake Trout, and several species of hybrid trout that were stocked long ago. Some waters in Idaho have self-sustaining populations of non-native trout. Some populations, referred to as “wild” origin, are extremely valuable to anglers and support important fisheries. While native species are given priority management, the high value of certain non-native populations is recognized and managed where appropriate.

All warmwater and coolwater game fish species in Idaho are non-native. The most prominent species include Largemouth Bass, Smallmouth Bass, Black and White crappie, Bluegill, Channel Catfish, Yellow Perch, Walleye, Northern Pike, and tiger muskie. The presence of these fish in Idaho increases diversity of fishing opportunity and presents both opportunities and challenges for fisheries management. These species can create productive fisheries and provide harvest opportunity in reservoir and altered river habitats where native game fish species are rare. The presence of these fish species can be negative if the establishment affects native fish and impacts fishery management objectives.

While the majority of Idaho anglers still prefer trout fishing, many of their preferred waters now also contain introduced species. Bass angling has a strong following in the state. Statewide, there are several examples of “two-story” fisheries that have increased angling opportunity using stocked or wild trout and warmwater and coolwater fish populations in the same waters with adequate habitat for both. However, the management costs to maintain a trout fishery typically increase when warmwater and coolwater species are abundant. The warmwater and coolwater species present in Idaho can successfully reproduce in most areas, making them less expensive to manage than trout stocking programs.

Hatchery Trout

Hatchery trout, primarily Rainbow Trout, are stocked into waters where habitats are not capable of supporting wild or natural reproducing populations sufficient to meet angler demand. Hatchery trout are often the only alternative to provide angling or harvest opportunity in smaller waters and community ponds. Hatchery trout stocking generally adheres to one of two methodologies, put-and-take or put-and-grow. Put-and-take stocking involves release of catchable-sized (typically 12 inch) fish into waters where there is moderate to high angling effort where trout are harvested quickly and long-term survival of the fish is low to zero due to direct fishery harvest or habitat limitation. Catchable-sized trout catch/harvest in flowing waters and larger lakes and reservoirs is typically lower than the percentage caught in smaller lakes and ponds. In 2016 in response to fisheries research identifying improved catch rates in streams and larger water bodies when larger fish were stocked, most catchable trout were shifted to a target size of 12-inch “magnum” at release to improve angler catch rates. Put-and-grow stocking involves release of smaller fry (1-7 inches) into productive waters that support post-release growth and longer term survival (over 1 year). Because fingerling trout do not survive well or grow to acceptable sizes in flowing waters, most trout stocked into streams will be catchable size. The Department will continue to adjust the use of hatchery fish in order to maximize return to anglers. Biologists will assess various environmental factors such as water temperature, zooplankton densities and sizes, species composition, and predator populations to improve survival, catch and harvest of fingerling and catchable-size trout. More details on hatchery trout can be found in the Fish Hatchery Program section of this plan.

Non-native Wild Trout

Self-sustaining populations of Rainbow Trout, Brown Trout, Brook Trout and Lake Trout are found across Idaho and provide angling opportunity and diversity where native fish no longer persist or never existed. Fisheries such as the Henrys Fork, Silver Creek and many mountain lakes are examples of important waters with high quality wild trout angling for non-native fish.

Non-native trout in some waters can pose a direct threat to native species conservation or other fishery management objectives. Lake Trout in Lake Pend Oreille were a threat to kokanee and trophy rainbow trout fishery as well as native Westslope Cutthroat and Bull Trout conservation. Non-native trout in the South Fork Snake River threaten the conservation of native Yellowstone Cutthroat Trout. Brown Trout are increasing in distribution and abundance in some areas of the state and can compete with, prey on, and displace native non-game fish, Redband or Cutthroat Trout. Brook Trout can hybridize with native Bull Trout in small streams and compete with Bull Trout and Cutthroat Trout.

Largemouth and Smallmouth Bass

Largemouth and Smallmouth bass were some of the very first non-native fish species introduced into Idaho and now have been present in the state for over 100 years. Capable of colonizing a wide variety of habitats, bass are present in most areas excluding high elevation and cold habitats. In most habitats, bass are self-sustaining without stocking and support popular fisheries. Bass growth is regulated primarily by water temperature and not food availability so efforts to improve bass fisheries focus on regulations that allow bass to live longer.

Largemouth Bass are a warm water species that is most successful in flat waters (ponds, lakes, reservoirs) or slow-moving rivers with abundant woody or vegetative cover. Waters range from the Coeur d’Alene Lake and connecting “lateral lakes” to small local community ponds. Growth rate of Largemouth Bass in Idaho is limited primarily by water temperature and is generally much slower than high-profile fisheries in the southern United States. Due to their slow growth and inconsistent recruitment, Largemouth Bass are susceptible to overharvest. Idaho anglers generally enjoy good Largemouth Bass fishing through a combination of restrictive regulations and high voluntary catch-and-release fishing.

Smallmouth Bass are a cool water species that is most successful in Idaho’s large lakes, reservoirs, the Snake and other large rivers. Smallmouth Bass have expanded their range in Idaho and are in every region of the state. Smallmouth bass thrive in waters with limited forage feeding on crayfish, zooplankton and aquatic insects. Smallmouth Bass growth can also be slow, requiring five to seven years before they reach 12 inches, but growth may increase markedly for adult size fish when high abundances of small kokanee are present as forage.

Bass populations have continued to expand, through movement or illegal introduction. In some waters, there are negative impacts to native species or other warmwater fisheries. Smallmouth Bass were intentionally introduced in Hayden Lake in 1983 but were illegally moved to Coeur d'Alene Lake in about 1990, and soon colonized lateral lakes, the lower Coeur d'Alene, St. Joe, St. Maries and Spokane rivers. Montana Fish Wildlife and Parks introduced Smallmouth Bass into Noxon Reservoir on the Clark Fork River in 1983 and 1986 and they are now well established in Lake Pend Oreille, the Pend Oreille River, and the Priest Lake system. Smallmouth Bass prey on juvenile Westslope Cutthroat Trout and Bull Trout and they have significantly reduced many of the native minnow species. In some waters, Smallmouth Bass are also impacting popular Largemouth Bass, crappie, and perch fisheries. In the Salmon and Clearwater rivers, Smallmouth Bass can be an impactful predator of juvenile anadromous species and high levels of fishing-related mortality is the management goal. Smallmouth Bass are moving upstream in the South Fork Payette, Middle Fork Bosie, Middle Fork Salmon, Owyhee, and Weiser rivers with some evidence of impacts to native species. Bass have been illegally introduced into several traditional cold water trout fisheries. These relatively new occurrences or expanded ranges of bass will be monitored to determine effects and whether alternative management strategies are needed to maintain fisheries management objectives.

Panfish

Panfish describe a group of introduced warm and cool water fish pursued primarily for harvest, hence the term “panfish", examples include yellow perch, black and white crappie, bluegill and pumpkinseed. Panfish are typically managed to maximize the total number of pounds harvested on an annual basis (i.e. yield). Generally high reproductive potential and high natural mortality limit the utility of restricted bag or length limits for panfish populations in larger systems. Thorough assessments of panfish fisheries in Idaho are limited. Panfish are commonly translocate to new waters or waters recovering from drought to create harvest opportunity or provide a prey base for other species. Panfish function as primary prey for trout or bass in many waters.

Black and White Crappie

Crappie are a popular warmwater species in Idaho due to their population's ability to support high harvest and provide high catch rates, while being preferred table fair. Black and White Crappie are in Idaho as well as their hybrid crosses. Crappie are challenging to manage. In small water bodies in southern Idaho, crappie tend to not reach a size preferred by anglers. Better population structure is generally found in larger, more productive lakes and reservoirs where crappie can provide tremendous harvest opportunity. Idaho's best crappie fisheries are Brownlee and CJ Strike reservoirs and Hayden Lake. In Brownlee and CJ Strike, abundance fluctuates depending on the survival of young crappie. In northern Idaho, growth is slower, so quality size structures may only be maintained with low to moderate harvest rates. Crappie eat primarily zooplankton when small, then become opportunistic at larger size. Crappie are usually most vulnerable to anglers when concentrated near shoreline structure during the spring spawning season. Despite this vulnerability, angler exploitation has rarely exceeded 30% of the adult population in Idaho fisheries. Crappie also suspend in open water areas making them more difficult to catch and reducing the possibility of over-harvest.

Bluegill

Bluegill/Pumpkinseed are two warmwater species that were introduced widely and established populations in many waters. Bluegill and Pumpkinseed are managed similarly and will be discussed together and referred to as Bluegill for the remainder of the plan. Anglers enjoy Bluegill because of their ease of catch, scrappy fight, and abundance, providing high catch rates and harvest opportunity. Bluegill often function as primary prey for Largemouth Bass. Quality- or Trophy-size Bluegill are rare in Idaho's public waters. High densities of small bass are thought to increase predation of Bluegill which reduces density and leads to higher growth of remaining Bluegill, thereby increasing average size. Low harvest rates of large male Bluegill may be necessary to maintain or increase size as large males have been shown to reduce reproductive success of smaller Bluegill, leading to higher growth of remaining fish and increasing size. In waters with Bluegill and bass, Bluegill are often deemed a lower priority based on angler opinion surveys and most regulations are designed to increase bass size structure rather than increase bass density, which may improve Bluegill size. Bluegill populations in Idaho have not been studied extensively, harvest rates are unknown, and no attempts have been made reduce harvest. Management efforts for Bluegill include stocking new waters or translocating Bluegill to waters recovering from drought.

Yellow Perch

Yellow Perch support important fisheries and can be an important food source for predatory fish such as trout, bass, and Walleye. Yellow Perch are difficult to manage for consistent size and abundance due to wide variations in year class strength. Strong year classes dominate and suppress subsequent year classes. Stable Yellow Perch populations and fisheries are more often associated with productive waters generally larger than several thousand acres with complex fish communities. Complex fish communities are thought to be necessary to maintain adequate levels of predation to prevent stunting and, at the same time, provide alternate food items for predators. Yellow Perch produce several thousand to over 100,000 eggs per female. High perch densities and inadequate food sources may lead to stunting. Yellow Perch are dependent on submerged cover, primarily flooded vegetation, for successful reproduction. Recruitment in reservoirs generally declines in poor water years as vegetation is not inundated during the spring spawning period. Yellow Perch populations often collapse once Walleye become well established.

Idaho anglers target Yellow Perch during open water and during ice fisheries because of the potential of high catch rates and excellent eating qualities. In small waters that support trout, the establishment of Yellow Perch often reduces growth rates and condition for trout and management may be focused on suppressing or eliminating Yellow Perch if possible. In systems with differing objectives, the Department will often re-introduce Yellow Perch where history shows trout and Yellow Perch are compatible.

Catfish

Channel, Flathead, Blue catfishes and Brown, Black, and Yellow bullheads have been introduced into Idaho. Catfish are categorized as warmwater fish and can survive waters exceeding 80F and periods of degraded water quality. Omnivorous in nature, catfish utilize a variety of food, allowing them to be successful in a variety of habitats. Low water temperatures and short growing seasons limit establishment of self-sustaining populations in Idaho to warmer water systems and lower elevations in southern and western Idaho.

The Channel Catfish is by far the most common and preferred target for catfish anglers. Popular fisheries include the Snake River from Bliss Dam downstream through CJ Strike and Brownlee reservoirs and the Snake River downstream of Hells Canyon Dam. Harvest is thought to be low and not impacting populations. In addition to self-sustaining populations, fisheries have been supported by stocking sub-catchable size Channel Catfish by translocating adults from healthy populations.

Flathead Catfish are more restricted and are localized in the Snake River from Swan Falls Dam downstream through Brownlee Reservoir. Considered a trophy species in southwest Idaho, individuals exceeding 20-30 pounds or more are not uncommon. Population and fisheries information is lacking and fishing interest for Flathead Catfish seems to be increasing.

Bullhead Catfish may become abundant in small water bodies even those with poor water quality, but angling interest tends to be low, despite high catch rates. At times, illegal introductions have led to the establishment of high-density populations that displace or compete with preferred game fishes requiring removal to restore fisheries.

Walleye

Walleye is one of the most controversial introduced species in the western United States. Waters of the western U.S. do not have the diverse and abundant forage base needed to sustain these prolific apex predators and Walleye in the western U.S. are typically incompatible with management objectives for native species and other game fish, particularly salmonids. The Commission approved a policy in the 1980s to introduce Walleye only in closed systems where they have no chance of escaping to other waters. Walleye were first introduced into Salmon Falls Creek Reservoir in south-central Idaho in the mid-1970s. The Department currently manages for Walleye in Salmon Falls Creek, Oakley, and Oneida reservoirs. Walleye will not be introduced into new waters by the Department during this planning period.

Illegal introductions have led to expanded distribution of Walleye in Idaho. Walleye now reside in all regions, except the Salmon Region. Walleye have been documented in Hayden Lake, the Pend Oreille system, the Bear River, the lower and middle Snake River, the lower Salmon River, Lake Cascade, Lake Lowell, Glendale Reservoir, and Ririe Reservoir. Evidence of natural reproduction is now apparent for the Pend Oreille system, Lake Lowell, Glendale Reservoir, and Ririe Reservoir. Expansion of Walleye up the Snake River from Washington is being evaluated at Lower Grantie Dam and angler catch of walleye in anadromous waters has been confirmed from Lewiston to Hells Canyon Dam and up the Salmon River as far as Riggins. Expansion of Walleye in anadromous waters is a management concern and will be further evaluated and managed during the life of this plan.

Walleye are incompatible with most fisheries management objectives in Idaho. Except for Salmon Falls Creek, Oakley, and Oneida reservoirs, management for walleye will be focused on encouraging harvest, mandating harvest during tournaments and continued education and enforcement to discourage illegal introductions.

A rapidly expanding Walleye population in the Pend Oreille System prompted the implementation of an experimental suppression program using netting and incentivized angler harvest to remove Walleye. Monitoring indicates population growth has been curbed in response to suppression. As a result, Walleye suppression will continue to be implemented. The establishment of new Walleye populations elsewhere in the state will require research and monitoring to understand population dynamics and potential impacts. Where practical and necessary to maintain other fisheries management objectives, the Department will actively suppress Walleye.

Northern Pike

Northern Pike are another highly controversial species in the western United States. Northern Pike are highly piscivorous and can impact native species and other desirable game fish and an authorized introduction has never occurred in Idaho. Northern Pike are found in the Panhandle Region. In 1972, they were illegally introduced into Cave Lake in the Coeur d'Alene drainage. In

1974, Northern Pike were documented in the Clark Fork River, located in the Pend Oreille River drainage. These introductions came from source populations that were illegally established in western Montana waters. Northern Pike spread rapidly throughout connected waters in the Spokane River drainage. Numerous illegal introductions followed and led to the establishment of Northern Pike in Hayden, Twin, Fernan, and Freeman lakes. Northern Pike were not commonly observed in the Pend Oreille drainage until the past decade; however, abundance in Lake Pend Oreille has increased in recent years and distribution is expanding downstream.

The Department has managed Northern Pike for 50 years and populations are of relatively low densities and range expansion is limited. Angler harvest contributes to maintaining lower population densities, with annual exploitation rates of 30-40%. Since 2006, fishing regulations and tournament management strategies have been focused on increasing Northern Pike mortality. In some waters, angler harvest may not be sufficient to regulate Northern Pike. Where practical and necessary to protect other fisheries management objectives, active suppression may occur. Northern Pike will not be introduced into new waters by the Department during this planning period and we will continue education and enforcement efforts.

Tiger Muskellunge (Tiger Muskie)

The tiger muskie is a sterile hybrid of a Muskellunge and Northern Pike. The first introduction of tiger muskie into the state was made in Mud Lake in 1988. After careful consideration and assessment, additional introductions of tiger muskie occurred. The current state record (44.25 pounds) was caught in Little Payette in 2013 and was recognized as a “modern day tiger muskie” world record.

Tiger muskie diversify fishing opportunities (unique species, trophy component) in waters with sufficient prey, such as Yellow Perch, bullhead, Utah Chub, or suckers. Tiger muskie stocking may deter anglers from illegally introducing Northern Pike by providing similar fishing opportunities, but with less risk of negative impacts because tiger muskie do not reproduce and are controlled by stocking rates. Tiger muskie are stocked on a limited basis in high mountain lakes to remove non-native fish (primarily Brook Trout) or improve their size with limited success. Tiger muskie stocking will continue in high mountain lakes to manage Brook Trout but will be weighed against other management options.

In lakes and reservoirs where tiger muskie have been stocked to provide fisheries, most waters are managed to keep fishing mortality low to allow growth to trophy sizes. Additional waters may be considered for tiger muskie management where the forage base is adequate and where there are no conflicts with other fishery objectives.

Native Nongame Species

Native nongame fishes serve important ecological, scientific, and cultural roles in Idaho. Idaho possesses a total of 28 native nongame fish species including 9 sculpin, 11 minnows, 6 suckers, 1 lamprey, and 1 species of trout-perch. Native non-game fish provide unique and underutilized fishing opportunities. The goal for managing native nongame fishes is to ensure high probability of long-term persistence. The Department, in coordination with other agencies, will continue to evaluate the distribution and population status of native nongame species to ensure proper management and conservation.

The status of native non-game fishes in Idaho is variable. Species with limited ranges or special habitat needs include the Bear Lake Sculpin, Shoshone Sculpin, Wood River Sculpin, Northern Leatherside Chub (formerly known as Leatherside Chub), Green Sucker, Pacific Lamprey, Sand

Roller, and Lake Chub. Fish with restricted ranges and small population size can be more vulnerable to extinction than species with more widespread distributions. Pacific Lamprey are anadromous fish and face similar threats as salmon and steelhead and substantial population declines over historical abundance in Idaho. Other species, such as Redside Shiner, Speckled Dace, Largescale Sucker, and Mottled Sculpin are widespread across much of the state and are regularly documented during the Department's routine field sampling efforts.

Some native non-game fish may increase in abundance to the point where they limit the ability to achieve other fisheries management objectives. In these instances, native nongame species can cause the fish community to become unbalanced due to habitat changes such as reservoir construction.

The Idaho State Wildlife Action Plan (SWAP) ranked all native fishes using a standard method (IDFG 2024b). The plan identified five native nongame fish as Species of Greatest Conservation Need and seven as Species of Greatest Information Need (Appendix 1). The Department is a signatory to conservation agreements for Northern Leatherside Chub, Pacific Lamprey, and Green Sucker (formerly Bluehead Sucker) and participates on conservation teams to discuss management and conservation actions. The goal of these conservation agreements is for all parties to undertake active conservation to increase population abundance and distribution of these native species to avoid listing under the ESA.

During this planning period and for purposes of native nongame fish conservation, the Department will:

1. Continue to advocate for protection of habitat for all aquatic communities supporting native fish species. Special attention will be given to fish communities supporting native nongame species with limited distributions, unknown current distribution, or documented declines in population abundance and distribution. This will include being an active participant and partner in conservation efforts for "at risk" native nongame fish.

2. Continue to enhance its understanding and knowledge about the distribution, population status, habitat preferences, and management needs of native nongame species through monitoring and research.

3. Use funding provided by Idaho Wildlife License Plates, State Wildlife Grants, and other sources to monitor status and trends and conserve these species.

4. Develop a native non-game fish conservation strategy.

5. Collaborate with Wildlife Bureau staff on monitoring and research related to native mussel and crayfish populations to develop efficiency across programs.

6. Proactively inform and educate Idaho citizens, agencies, partners, and decision-makers about population status and the ecological and intrinsic value of native nongame species.

Special Seasons, Limits, and Rules in Fisheries Management

Regulating recreational harvest of fish is a central component of fisheries management. Harvest is primarily regulated by adjusting season length and timing, as well as bag, possession, or length limits, which are set by Commission proclamation. Modification of administrative rules such as gear definitions also may affect fish mortality or harvest but generally less so than seasons and limits as rules have been relatively stable through time. Historically, Idaho anglers were more harvest oriented which at times led to overharvest of certain species. Through time, season, limits, and rules became more restrictive. Today, harvest is more mixed. Some anglers remain harvest oriented, while others practice catch-and-release almost exclusively, though most anglers fall somewhere in the middle and may switch depending on species. In concert with differing harvest tendencies and real or perceived changes in fishing effort or harvest rate, managers are continually challenged with determining whether fishing-related mortality needs to be managed by altering seasons, limits, or rules. Central to these decisions are an understanding of fishing and natural mortality rates, growth rates, longevity, recruitment, as well as angling effort and probability of capture and harvest. Managers remain committed to evaluating biological and social information when considering recommendations for seasons, limits, or rule changes.

Recreational harvest of resident game fish is managed to achieve a variety of objectives and fishery types. Management direction is set to meet primary and secondary objectives (see page 79). Fishing seasons, limits, or rules are designed to achieve the management objectives set for waters or specific species. Most game fish populations are managed with general regional seasons, limits, and rules; however, certain waters are managed as exceptions formally referred to as Special Rule Waters. The Department will continue to use exceptions sparingly and reduce the number of exceptions where practical, to ensure the Fishing Seasons and Rules brochure remains as simple as possible and does not act as a barrier to participation.

Many fisheries in Idaho Exceptions are most often implemented to adjust fishing mortality for trout and bass. For populations where fishing mortality needs to be reduced, regulations adjustments may include shorter seasonal closures, reduced bag or possession limits, or length limits (which may include minimum, protected slot, or one-over limits). When successfully applied, adjustments improve spawning success or alter size and age of the target population. For fish or waters where an increase in fishing-related mortality is desirable, regulation adjustments may include increases in or removal of bag limits, lowering or elimination of minimum length limits, and longer seasons. Where appropriate, these adjustments work to reduce density of highly abundant species which may increase growth rates or lessen predatory or competitive effects.

High Mountain Lake Management

Over 3,700 high mountain lakes (HMLs or alpine lakes) exist in Idaho, ranging in size from small temporary ponds to large lakes over a mile long. Anglers utilizing HMLs in Idaho consistently express a high level of satisfaction. These lakes provide a quality fishing experience in scenic country with the opportunity for solitude and remoteness, and are an important component in Idaho's recreation economy, with over 40,000 anglers fishing HMLs each year. According to 2011 economic survey data collected by the Department, anglers took over an estimated 85,000 individual fishing trips to HMLs (IDFG 2011 unpublished data).

The Department has defined "HMLs" as remote lakes above 1,500 m (4,920 ft.) elevation. Lakes occur primarily in remote backcountry areas although some are accessible by motorized vehicles, most are accessible only by foot or horseback with many in federally designated wilderness areas. Managing HML fisheries is challenging due to remote locations, vast number of lakes, their ecosystems and complex and varied rules. Survey data describing fish and amphibian populations is incomplete for many lakes.

Most HMLs in Idaho were historically fishless (Bahls 1992). Trout stocking in HMLs started in the early 1900s, possibly earlier, but efforts were increased substantially after World War II to meet recreational demand. Historically Brook Trout, Rainbow Trout, Cutthroat Trout, and several other species of salmonids were stocked in HMLs. Currently, the Department stocks about 598,000 trout across 638 different HMLs (average of about 930 trout fry per lake). Westslope Cutthroat Trout are the most stocked species (about 54% statewide) then sterile Rainbow Trout (30%). Grayling (5%), Golden Trout (5%), and tiger trout (Brown x Brook Trout) are stocked on a limited basis. Yellowstone Cutthroat Trout (5%) are stocked primarily in lakes of the Upper Snake Region. Brook Trout are no longer stocked in HMLs. Lakes are stocked usually in August or September on a 1-, 2-, or 3-year rotation with most lakes stocked by a contracted airplane.

Scrutiny over managing HML fisheries has increased (Bahls 1992; Pister 2001; Dunham et al. 2004; Wiley 2003), with evidence that the introduction of salmonids into historically fishless HMLs may contribute to reduced numbers of invertebrates, amphibians, and other native species (see Dunham et al. 2004 for review). The Department recognizes maintaining quality fisheries in HMLs in the future will be influenced by our knowledge of HML ecosystems and how fish stocking programs influence them. Historically, HMLs in Idaho were managed to provide diverse angling opportunities. All lakes currently stocked in Wilderness areas in Idaho had stocking programs prior to the areas being designated as Wilderness. More recently, the Department uses an adaptive management approach to guide the HML fish stocking. Ecological and biological aspects of maintaining healthy amphibian populations are now considered in determining HMLs management. Potential impacts to downstream native fish populations are also considered.

HML Management Principles

During this six-year planning period, the Department will develop a High Mountain Lake Management Plan. The Department will consider the interests of anglers as well as the requirements of native aquatic species. Therefore, management of HML fisheries should (1) strive to provide diverse recreational fishing opportunities, and (2) be compatible with the long-term persistence of amphibians in these watersheds.

For the most part, the Department manages HMLs using consistent approaches throughout the state. Because of this, most HMLs are not listed within the individual drainage sections in Part 2. Lakes with specific objectives such as improving size structure, or removing unwanted fish populations, etc. May be listed in Part 2. The following outline HML management.

1. HML fisheries will be managed to maintain suitable fishless habitat to ensure the long-term persistence of native aquatic fauna. Where desirable and feasible, some lakes will be maintained as fishless. Fishless lakes will allow for maintenance of natural conditions for native fauna within alpine ecosystems. Lakes that are fishless and that have never been stocked previously may remain fishless. A few lakes that currently hold fish may be removed from the stocking schedule as a research experiment to measure fish, amphibian, and other natural fauna population responses.

2. A diversity of suitable fish species will be used. Lakes which “winterkill” with a frequency greater than once in four years will not be stocked. Self-sustaining native trout populations will be maintained (unless determined to not be meeting fishery management objectives). The Department recognizes Golden Trout, Arctic Grayling, and tiger trout provide diversity for HML fisheries but inconsistent egg sources may impact stocking rotation for HMLs with these species. An assessment of natural reproduction is a key component of HML surveys. As new information is available, stocking rates and frequencies will be adjusted to meet the management objectives for each lake.

3. Self-sustaining populations of non-native or hybridized trout may be reduced to conserve native species or meet other fish management goals. Management will be directed towards reducing or eliminating negative effects of non-native fish populations by utilizing fishing

regulations or population management actions including but not limited to: stocking tiger muskie or YY Brook Trout, direct removal netting, or using chemical renovation.

4. Management of HMLs in wilderness and national recreation areas will be coordinated with the appropriate land management agencies under existing agreements.

Community Fishing Waters

The Department works to provide continued supplies of fish for all Idaho anglers and to respond to the changing needs of society. Idaho is changing quickly due to rapid development and human population growth. While still mostly a rural state geographically, much of Idaho's growth is occurring in more urban counties of Ada, Canyon, Kootenai, and Twin Falls. Based on 2020 census data, Ada and Canyon counties combined hold 39.5% of Idaho's population and a slightly higher percentage (43%) of fishing license sales annually. Recent population growth has been linked with increased racial and ethnic diversity (McGinnis-Brown et al. 2017). Unfortunately, growth, urbanization, and associated societal and cultural shifts often coincide with declining trends in fishing participation (Balsman and Shoup 2008). Declining fishing participation has been attributed to lack of access or opportunities, time constraints, and an overall change in lifestyle or culture, where nature-based outdoor activities have been devalued.

Community fishing waters may be an important tool for offsetting declines in participation normally associated with growth, urbanization, or other factors. When managed properly, community fishing ponds are a vital tool for recruiting and retaining anglers (Eades et al. 2008). Furthermore, community fishing ponds are important in developing support for statewide fisheries programs and help increase angler knowledge, skill level, and concern for the environment (Kellert and Westervelt 1983; Schramm and Dennis 1993; Balsman and Shoup 2008). Community fishing waters serve disparate angler types. Demographic data from Butts et al. (2013) showed about 1/3 of community pond anglers were under age 15, but these fisheries are primarily used by experienced anglers. Experienced anglers utilize these waters for close to home opportunities, while new or novice anglers may be introduced to the sport at these waters. The mean age of anglers across 11 Treasure Valley ponds stocked with trout was 42, with anglers fishing an average of 62 days/year, with 45% of those days on community ponds (Chiaramonte 2021). Community pond anglers frequently (29%) fished with children under the age of 14, underscoring the importance of ponds for family recreation and introduction to angling. Income has been shown as a predictor of fishing participation (Floyd et al. 2006), suggesting that low income may be a barrier to fishing participation. The low cost of community pond fishing may be able to help mitigate that income barrier to recruit and retain anglers (Hebdon et al. 2008). Because of this, aquatic education and outreach efforts such as Free Fishing Day and "Take Me Fishing" Trailer events will occur and be promoted at community fishing waters. Access to ponds remains a critical element in attracting anglers. Proximity to home was the primary factor anglers reported when choosing which pond to fish (Chiaramonte 2021). Providing community ponds for close-to-home angling opportunities will remain a key element in angling recruitment, retention, or reactivation efforts.

Effort/Economics

Many Community Ponds support a very high number of fishing trips (often of short duration). Despite the relatively low trip cost, the very high number of trips makes the economic value of these fisheries comparable to some of the state's most popular fisheries. The community fishing program in the Southwest Region stimulated around $11 million in trip-related spending annually (Butts et al. 2013). This would be much higher if expanded to community fishing waters statewide and illustrates the benefit to local economies. Managing community ponds for fishing opportunity is important for both recreational angling and local economies.

Management Direction

The Department works to develop fishing opportunities where people, especially beginner anglers, can gain instruction or participate easily in the sport of fishing. More than 75 small lakes and reservoirs ranging from less than one to nearly 50 acres are managed as community fishing waters. These waters have been designed, developed, or managed to provide easily accessible, safe, and enjoyable angling experiences. During this planning period, the Department will look for opportunities to develop community fishing waters in underserved areas by working collaboratively with cities, counties, and other partners. Ideal waters are adequate size, with proper nearshore slopes, and adequate depths to support a variety of species, for safety, and to minimize nuisance aquatic plant problems.

The Department seeks to effectively manage community fishing waters to maintain quality fishing through stocking adjustments, species additions, monitoring, fishing regulation changes, habitat or access improvements, as well as development of new waters. Adjustments may include reallocation of hatchery fish, changing stocking size or frequency, as well as reestablishment of certain species.

Fish Stocking

Community ponds are most often supported by a combination of stocked trout and self-sustaining warmwater fish. Trout stocking is often critical to meet angling demand. The Department stocks catchable-sized Rainbow Trout on a bi-weekly or monthly basis in many community fishing waters. Rainbow Trout stocking numbers are based on pond size, angling effort, and habitat quality with the intention of providing adequate catch rates for as many anglers as possible. Summer water temperatures are often too hot for trout and trout stocking ceases until waters cool in the fall. Unfortunately, summer stocking cessations coincide with peak fishing effort periods. The Department will continue to evaluate trout stocking practices and investigate alternative species where practical to maximize efficiency and benefits provided to anglers. As new community fishing waters are developed, hatchery trout resources will need to be increased or reallocated to meet additional demand.

Community pond anglers have expressed interest in more diversity in species. The Department will stive to maintain populations of warmwater fishes in community ponds to diversify fishing options, especially when trout stocking is insufficient to meet demand and warmwater fish are not a risk to native fish populations. Bluegill, Bullhead Catfish, Channel Catfish, Largemouth Bass, Pumpkinseed, and Yellow Perch are primary fish species introduced to community waters to create self-sustaining populations and have created popular fisheries. In some ponds, fingerling Channel Catfish (typically around 8” length) have been stocked to diversify fishing opportunity. Channel Catfish may be susceptible to Largemouth Bass predation, requiring large stocking sizes and additional cost. Therefore, fingerling Channel Catfish will only be utilized at locations where survival and growth rates are sufficient to provide a fishery. Establishing warmwater populations in new ponds requires occasional (and often substantial) investment in time to collect and transport these fish from other waters, since the Department does not produce warmwater fishes in our hatchery system.

Maintaining the proper balance and size structure between Largemouth Bass and panfish may be one of the most challenging aspects of community pond management. In some ponds, overharvest of Largemouth Bass may lead to poor size structure and predator-prey imbalance (Butts et al. 2016). The Department should evaluate opportunities to provide quality Largemouth

Bass and panfish consistent with biological productivity of the ponds and angler desires. Studying population dynamics and exploitation will inform appropriate fishing regulations could improve catch rates and size structure of bass and panfish in a select number of ponds, providing additional fishing diversity.

Facilities/Access

Community fishing waters often have very simple fish habitat and may be susceptible to nuisance aquatic plant growth. Aquatic plants will be managed using herbicides, biological (Grass Carp), and physical drawdowns while balancing the needs for fishing access and providing adequate fish habitat. The Department will seek to improve in-water and shoreline habitat complexity to increase pond carrying capacity. The Department will seek to improve riparian habitat, especially tree cover, to shade nuisance aquatic plants and provide eventual habitat complexity.

While some angler interviews have indicated that nearby amenities are an important aspect when determining where to fish, improving facilities is secondary to improving fish populations. When asked to choose from potential community pond improvements, anglers at 11 Treasure Valley ponds most often chose larger trout, followed by more species; more trout and improved amenities were least often chosen (Chiaramonte 2021). The Department should continue to work with cities and parks departments to improve access facilities such as fishing docks and restrooms when funding is available. However, optimizing stocking frequency, species diversity and fish size should be priorities.

During this planning period, the Department will continue to manage and expand community pond fishing opportunities with these strategies:

- Stock larger trout when possible to maximize angler satisfaction and return to creel
- Optimize trout stocking by stocking weekly or bimonthly at intermediate densities to maximize catch rates and satisfaction
- Provide fishing diversity (bass, bluegill, and catfish), especially in summer when trout survival is limited
- Evaluate bass and bluegill population demographics rates and angler harvest to inform whether restrictive limits may improve warmwater fishing in some locations
- Look for opportunities to develop new community fishing waters in underserved areas
- Work with municipalities to improve facilities and access amenities at ponds
- Work with municipalities to improve habitat in community ponds to support higher biomass of sportfish.

Anadromous Fisheries Management

The Department's long-range goal of the anadromous fish program is to rebuild and preserve Idaho's salmon and steelhead runs to healthy and harvestable levels to provide benefits for all users. Key management objectives to achieve the management goal are: 1) maintain genetic and life history diversity of naturally- and hatchery-produced fish; 2) rebuild naturally reproducing populations of anadromous fish to further utilize existing and potential habitat; 3) achieve mitigation benefits for losses of anadromous fish caused by development of the hydroelectric system on the Snake and Columbia rivers; 4) improve overall life cycle survival sufficient for delisting and recovery by addressing key limiting factors identified in all "H's" of hydropower, habitat, harvest, and hatchery effects; 5) allow consumptive harvest through sport and treaty fishing; and 6) coordinate Pacific Northwest regional management with Idaho anadromous management to ensure achievement of Idaho management objectives and the long-range program goal.

Idaho's anadromous fish species include steelhead, Chinook Salmon, Sockeye Salmon, Coho Salmon, and Pacific Lamprey. Anadromous fish in Idaho currently occupy most of the accessible habitat, which is found in the Salmon, Clearwater, and the Snake rivers (downstream of Hells Canyon dam; Figure 3). The Department's regulatory authority is limited to hatchery operations, fishery/harvest management, and fish management activities to rebuild salmon, steelhead, and lamprey to meet the long-term goals and objectives. Therefore, a key step toward achieving the long-term goals and objectives is to coordinate and provide technical expertise on anadromous fish to other regulatory or land management agencies, Tribal Fisheries programs, and conservation organizations. Over the life of this management plan, anadromous fisheries management will continue to focus on monitoring and improving the status of naturally produced salmon, steelhead and lamprey populations, and management of fisheries targeting salmon and steelhead. The Drainage Management Plans in this document contain specific management actions for all anadromous fish species.

Background

Historically, the Snake River was the Columbia River basin's most productive drainage for salmon and steelhead, supporting more than 40% of all Columbia River spring and summer Chinook Salmon and 55% of summer steelhead (NOAA 2017a). Currently, approximately 62% of Idaho's historic spawning and rearing habitat for spring and summer Chinook Salmon and summer steelhead remains accessible (Figure 3). The greatest loss of production habitat has occurred for Snake River fall Chinook Salmon, for which only 17% of the historical habitat is currently accessible. Approximately 30% of Idaho's streams inhabited by salmon and steelhead are located within areas designated as wilderness or waterways classified as wild and scenic rivers. This increases to over 50% with the inclusion of roadless areas. Declines in run sizes led to federal ESA listings of Snake River salmon and steelhead starting in 1991 (see Endangered Species Act section). Runs of naturally reproducing salmon and steelhead in Idaho improved following historic low abundances in the mid-1990s, but they were still much lower than in the 1960s and early 1970s. Annual abundance has been reduced since 2016, primarily due to poor and inconsistent ocean conditions.

Oversight of Idaho's endangered species is administered through the Idaho Governor's Office of Species Conservation (OSC). The Department works closely with OSC on multiple fronts in monitoring and managing Idaho's ESA listed salmon and steelhead populations. Additional information on OSC can be found at https://species.idaho.gov.

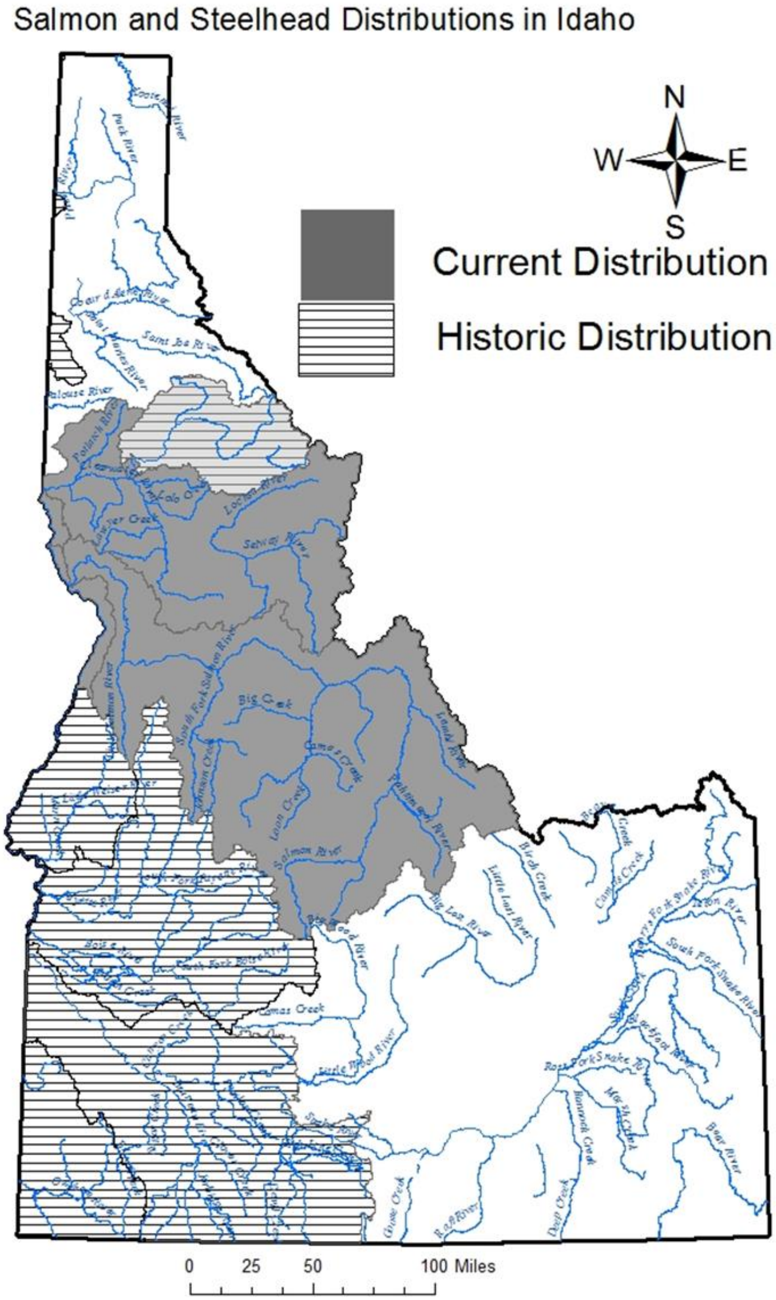


Figure 3. Current and historical distribution of anadromous fish in Idaho.

Spring and Summer Chinook Salmon

Spring and summer Chinook Salmon in the Snake River basin are defined by run timing. Returning adult Snake River spring and summer Chinook Salmon enter the Columbia River from March through the end of June and are genetically distinct from the Snake River fall Chinook Salmon migrating later. Historic estimates are upwards of one million spring and summer Chinook Salmon returning to the Snake River. Throughout the Columbia River, salmon and steelhead runs began to decline from historic abundance in the late 1800s and early 1900s due primarily to commercial overharvest. After rebounding somewhat with better harvest management, severe declines began in the late 1960s and continued until reaching record lows in the 1990s (Figure 4 4). This decline resulted in an ESA listing of Snake River spring and summer Chinook Salmon as Threatened in 1992. Current management units for spring and summer Chinook Salmon in this plan include the Clearwater and Salmon River drainages and the Snake River downstream of Hells Canyon Dam. Native, wild/natural populations in the Snake and Salmon rivers and hatchery programs at Pahsimeroi, McCall, and Sawtooth in the Salmon River basin are listed under the ESA. Clearwater River basin Chinook Salmon were extirpated following the construction of the Lewiston Dam in the 1920s and reestablished using hatchery-origin fish.

Management actions during this planning period include continued implementation of hatchery supplementation activities (primarily using integrated broodstocks described in the Anadromous Hatchery Chapter of this Management Plan), releases of hatchery smolts for harvest of returning adults, implementation of habitat enhancement activities to increase spawning and rearing habitat, screening of irrigation diversions, and continued monitoring of abundance, productivity and key life-history traits of natural-origin fish. Regional efforts have improved tributary habitat and hydrosystem operations, but recent abundance has been well below desired and historic levels (Figure 4).

Fall Chinook Salmon

Fall Chinook Salmon are defined by run timing as entering the Columbia River between August and October and are genetically distinct from spring and summer Chinook Salmon. Historically, Idaho was a key production area for wild fall Chinook Salmon in the Columbia River basin. The Snake River drainage historically supported two populations of fall Chinook Salmon: the extant lower mainstem population downstream of Hells Canyon Dam and its tributaries, and the extirpated middle mainstem Snake River population upstream of Hells Canyon Dam upstream to Shoshone Falls. The middle Snake River supported the majority of all Snake River fall Chinook Salmon production until the area became inaccessible due to dam construction. Nine major tributaries to the middle Snake River (Salmon Falls Creek and the Owyhee, Bruneau, Boise, Payette, Weiser, Malheur, Burnt, and Powder rivers) were also accessible but most fall Chinook Salmon spawned in the Snake River. The loss of this upstream habitat restricted the species to the area downstream of Hells Canyon Dam, which is not as productive as the upstream reaches once were. Along with range restrictions, fall Chinook Salmon also experienced significant declines in abundance. Numbers of fall Chinook Salmon began to decline toward the end of the 1800s and continued declining until 1990 when only 78 adults returned to Lower Granite Dam. Due to hatchery supplementation, improved hydrosystem operations, and harvest rate reductions, fall Chinook Salmon abundance reached over 20,000 wild fish in 2013 and over 45,000 hatchery fish in 2014 (Figure 5Figure 5). Both naturally and hatchery produced Snake River fall Chinook Salmon are listed under the ESA.

Sockeye Salmon

Sockeye Salmon returning to Idaho’s Sawtooth Valley travel a greater distance from the sea (1,450 kilometers [900 miles]), and to a higher elevation (1,996 meters [6,500 feet]), than any other Sockeye Salmon population. They are the southernmost population of Sockeye Salmon in the world. It is estimated that historically, as many as 25,000 Sockeye Salmon returned to spawn along the shorelines and inlets of the Stanley basin lakes in the upper Salmon River drainage, Idaho (CBPTF 2020). In 1910, Sunbeam Dam was constructed across the Salmon River just upstream from Yankee Fork at river mile 368.3. Even after a fish ladder was completed in 1920, fish passage was very limited. In 1934, the dam was breached and fish passage was restored. Sockeye Salmon runs rebounded after passage was restored, but declined steadily from 1960-

1990 (Figure 6) and were listed as endangered under the ESA in 1991. In 1989 and 1990, trapping on Redfish Lake Creek captured no adult fish. The sockeye captive broodstock program was initiated in 1991 as a gene-rescue program to avoid extinction of the last remnant Snake River Sockeye Salmon population. As a result of this program, natural spawning and juvenile production is occurring in Redfish and Pettit lakes. The captive broodstock program will continue to support Sockeye Salmon production in these lakes and Alturas Lake over the term of this plan.

During this planning period, the captive broodstock program will continue. Springfield Hatchery will provide up to 1,000,000 smolts for release into Redfish Lake Creek. Management will focus on rearing and release strategies to improve the survival of migrating Sockeye Salmon smolts from Redfish Lake Creek to Lower Granite Dam. The strategy follows the phases developed in the recovery plan and master plan for Springfield Hatchery (IDFG 2010, NOAA 2015a).

Coho Salmon

Coho Salmon were native to the lower Clearwater River and its tributaries, including the North Fork Clearwater River, Lochsa River, Selway River, and South Fork Clearwater River. However, these runs were eliminated after the construction of Lewiston and Harpster dams, which did not have adequate fish passage facilities. The Department conducted supplementation efforts using eyed-eggs from 1962-1968. Following limited success in the form of adult returns, the program was terminated. No fish returned in 1986 and the Snake River Coho Salmon were declared extirpated (Figure 7). A reintroduction program was initiated by the Nez Perce Tribe in 1995 using fish from the lower Columbia River. As a result of these on-going supplementation efforts, Coho Salmon are currently present in the mainstem Clearwater and Middle Fork Clearwater rivers and have supported sportfishing opportunities since 2014. Beginning in 2021, sport fisheries have also occurred in the Snake River. Recent returns of adult Coho Salmon have numbered in the thousands, peaking at over 24,000 in 2021. Coho Salmon in Snake River drainage of Idaho are not listed under the ESA.

Steelhead

Naturally produced Snake River summer steelhead declined steadily from the 1960s through the 1990s resulting in their listing as threatened under the ESA in 1997. Hatchery steelhead abundance in Idaho increased from the 1970s but has recently declined from a peak in 2010 (Figure 8).

In Columbia River sport and tribal fisheries, summer steelhead are referred to as A-index and B-index for management purposes. These classifications do not apply to the management of steelhead fisheries within Idaho. The A and B indices were designed to allow differential harvest rates between the two runs in the lower Columbia River. The initial A and B designation was based on migration timing at Bonneville Dam, which was correlated to ocean age and adult size. The A-index fish passed Bonneville Dam generally before August 25, with the majority spending only one year in the ocean and originated throughout the Columbia River basin. The B-index fish passed Bonneville Dam generally after August 25, predominantly spend two years in the ocean, and are destined primarily for the Lochsa River, Selway River, North Fork Clearwater River, South Fork Clearwater River, and Lolo Creek drainages in the Clearwater River basin and the South Fork Salmon River and Middle Fork Salmon River drainages in the of the Salmon River basin. Some historical references identified B-index summer steelhead being native to the Salmon River tributaries upstream of Challis. Because B-index fish typically spend an additional year in the ocean, they are generally larger than A-index fish. Due to increases of hatchery returns in the 1980s and hatchery practices, the timing of the two runs became indistinct and beginning in 1999, a length criterion was used instead of a cutoff date (B-index fish ≥78 cm or 30.7 inches).

Lamprey

Pacific Lampreys are native to Idaho. The Department is a signatory to the Conservation Agreement for Pacific Lamprey in the states of Alaska, Washington, Oregon, Idaho, and California (PLCA 2022). The agreement is designed to promote implementation of conservation measures for Pacific Lamprey throughout its range. Historic abundance of Pacific Lamprey in Idaho is not well documented; however, due to their anadromous life history, Pacific Lamprey have been impacted by many of the same factors as Pacific salmon (i.e., migration impediments due to large and small dams, degradation and loss of spawning and rearing habitat). In recent years range-wide abundances have been increasing due to improvements in upstream passage at hydropower facilities and translocations by Tribal programs in the Snake River basin such that the 2023 count at Lower Granite Dam was almost twice the previous peak in 2017 (Figure 9). Primary management focus in Idaho will be continued monitoring of habitat occupancy within rivers and streams accessible to anadromous fish, and continued cooperation with Tribal entities on translocations programs in Idaho. A collaborative effort between the US Forest Service (USFS), the Department, USFWS, and tribes using eDNA sampling was initiated in 2018 that spanned the extent of potential Pacific Lamprey habitats in Idaho. Information regarding species occurrence from the new eDNA data sets can be used with historical survey information to develop distribution models and better describe status and trends.

Abundance Goals for Salmon and Steelhead

In this Management Plan, we identify escapement goals for naturally produced salmon and steelhead to meet Department expectations for both conservation and harvest. Escapement goals identify the number of adult salmon and steelhead needed to seed spawning habitat, provide directed harvest opportunity, and accommodate conservation and supplementation hatchery programs (where currently implemented). Referred to as “healthy and harvestable,” these escapement goals extend beyond the minimum abundance thresholds (MATs) adopted in the ESA recovery plans to consider fish for delisting (NOAA 2015a, NOAA 2017a, NOAA 2017b). The MATs are minimum targets related to long-term extinction risk and do not provide sufficient escapement for full habitat seeding nor do they reflect reasonable harvest opportunity. These targets are considered benchmarks for potential delisting of ESA listed stocks.

Hatchery return goals for salmon and steelhead address mitigation responsibilities associated with the construction and operation of hydropower dams on the lower Snake River, the Columbia River, North Fork Clearwater River, and the Hells Canyon Reach of the Snake River and are independent of the escapement goals for naturally produced salmon and steelhead. Hatchery mitigation goals exist for spring and summer Chinook Salmon, fall Chinook Salmon, and summer steelhead and are defined in federal statute or in formal mitigation agreements (e.g., Hells Canyon Settlement Agreement 1980). Sockeye Salmon hatchery production is also funded with mitigation dollars, but specific, numerical goals have not been defined in mitigation agreements. Existing hatchery mitigation goals are presented in the Anadromous Hatchery Chapter of this Management Plan.

In defining escapement goals for naturally produced salmon and steelhead, Department scientists relied on a number of resources including: 1) unpublished Department file information that described accounts of historical abundance of salmon and steelhead in the Snake River; 2) previously published Department Management Plans and unpublished management documents that described the need to establish goals as well as identified proposed goals; 3) hatchery mitigation program planning documents that estimated pre-Snake River Dam salmon and steelhead abundance in the Snake River; 4) The Department’s historical redd (nest) count database for tributaries of the Salmon River that dates back to the 1950s and Snake River Dam and Lewiston Dam historical adult passage counts; 5) Subbasin Plans produced in the late 1980s and revised in the mid-1990s as part of a Columbia basin-wide effort spearheaded by the Northwest Power and Conservation Council and funded by the Bonneville Power Administration (BPA); and 6) other personal and written accounts of habitat carrying capacity and historical abundance.

Collaborative Columbia Basin Efforts

The Department's efforts to define healthy and harvestable quantitative escapement goals for salmon and steelhead occurred at the same time as a National Oceanic and Atmospheric Administration (NOAA)-Fisheries-led effort to establish similar goals for all wild- and natural-origin populations of salmon and steelhead in the Columbia basin. NOAA initiated this effort in 2012 asking stakeholders, states, and tribes to identify key challenges facing salmon and steelhead recovery and to help identify long-term solutions in the Columbia basin. The main recommendation from this process called for NOAA leadership to develop common measures of success for Columbia basin salmon and steelhead that addressed multiple directives, including the ESA delisting, tribal treaty and trust responsibilities, and sustainable fisheries mandates (Oregon Consensus and William D. Ruckelshaus Center 2013). Acting on this recommendation, NOAA invited stakeholders, states, and tribes to participate in a process to develop common, long-term quantitative objectives for salmon and steelhead. This effort was called the Columbia Basin Partnership (CBP). In 2016, the CBP reorganized as a Task Force under the Federal Marine Fisheries Advisory Committee process to support its ability to directly advise the Secretary of Commerce (NOAA 2015b). This effort concluded with a report in October 2020. The CBP work continues as the Columba Basin Collaborative, which is developing recommendations for achieving abundant and harvestable salmon and steelhead in the Columbia Basin.

Through the CBP, healthy and harvestable goals for wild- and natural-origin fish in every population of salmon and steelhead in the Columbia River basin were defined. Idaho helped develop the objectives for populations in the Snake River basin. NOAA's hope for the Partnership Task Force was to provide a better framework for addressing salmon and steelhead recovery and long-term management. The goals presented as part of this Management Plan are consistent with those developed in the CBP process.

Escapement goals are presented as aggregate counts of adult fish by species (e.g., total tributary escapement goal for all populations of Snake River spring and summer Chinook Salmon) (Table 2, Figures 6-9). We also present goals aggregated at the NOAA-defined Major Population Group for Chinook Salmon, Coho Salmon, and summer steelhead (Table 3Table 3).

Table 2. Escapement goals for adult wild- and natural-origin Snake River salmon and steelhead aggregated at the species level. Ten-year average returns to Lower Granite Dam were calculated for years 2014-2023. NOAA minimum abundance goals represent values that NOAA has identified to minimize long-term extinction risk. Escapement goals to the Snake River basin include populations in Washington, Oregon and Idaho.

Proposed naturally produced salmon and steelhead goals	Recent 10 yr average return to Lower Granite Dam	Minimum abundance goals for Snake River Basin	Proposed goals for Snake River basin	Idaho component of Snake River basin goals
Spring/summer Chinook Salmon	11,151	31,750	131,000	102,000

Fall Chinook Salmon	9,284	4,200	14,360	NA
Summer Steelhead	18,814	21,000	105,000	72,500
Sockeye Salmon	104	2,500	9,000	9,000
Coho Salmon	10,589	8,900	44,100	34,000

Table 3. Escapement goals for naturally produced Chinook Salmon, Coho Salmon, and steelhead aggregated by NOAA-designated Major Population Group.

Spring/summer Chinook Salmon major population groups	**Proposed goals for major population group**
Grande Ronde/Imnaha, Oregon	24,000
Lower Snake, Washington	5,000
Dry Clearwater, Idaho	11,000
Wet Clearwater, Idaho	15,000
South Fork Salmon, Idaho	17,000
Middle Fork Salmon, Idaho	22,000
Upper Salmon, Idaho	37,000
TOTAL SPRING/SUMMER CHINOOK	131,000
Fall Chinook Salmon major population groups	**Proposed goals for major population group**
Single Population (Washington, Oregon, Idaho)	14,360
Coho Salmon major population groups	**Proposed goals for major population group**
Tucannon, Washington	3,300
Grande Ronde, Oregon	3,500
Imnaha, Oregon	3,300
Clearwater, Idaho	14,000
Salmon, Idaho	20,000
TOTAL COHO SALMON	44,100
Summer steelhead major population groups	**Proposed goals for major population group**
Clearwater, Idaho	25,000
Grande Ronde/Imnaha, Oregon	25,000
Lower Snake, Washington	7,500
Salmon, Idaho	47,500
TOTAL SUMMER STEELHEAD	105,000

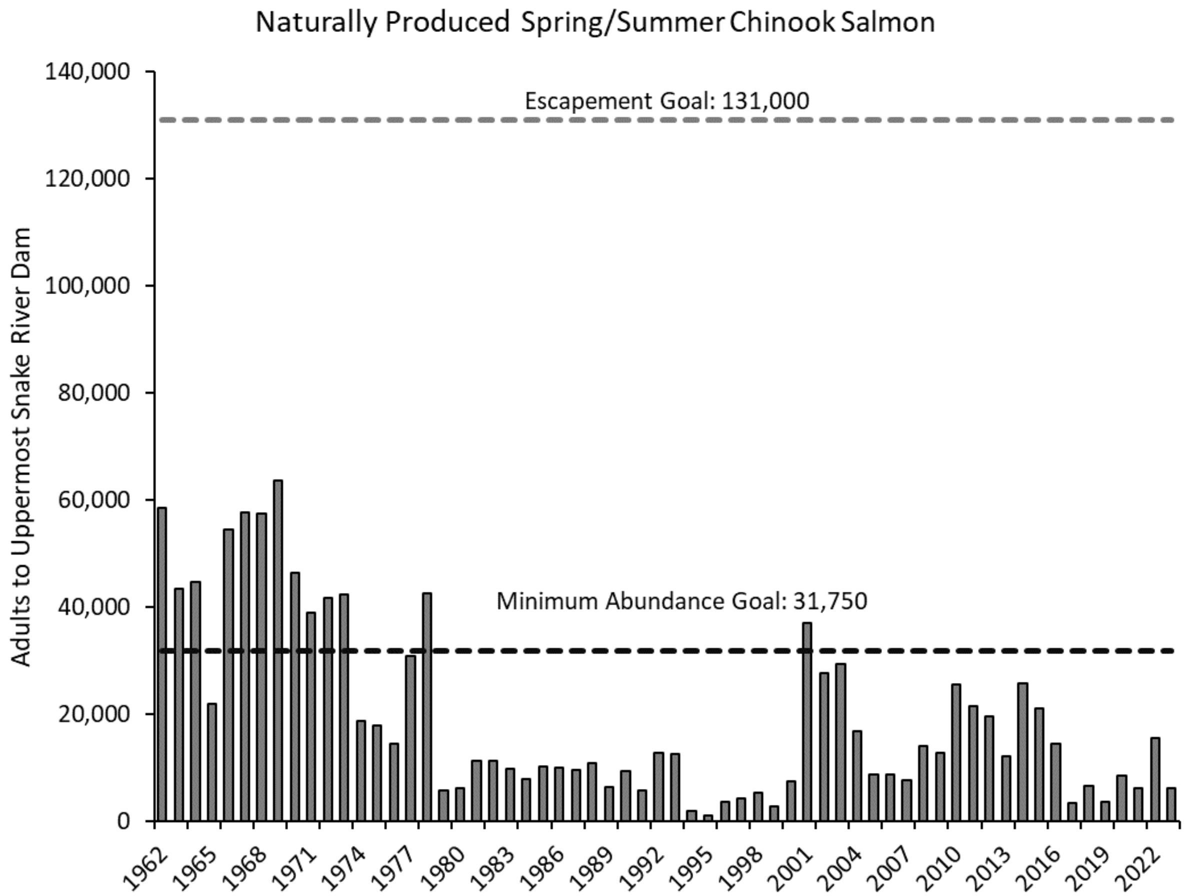


Figure 4. Historic adult passage of naturally produced spring/summer Chinook Salmon at the upper most dam and counting facility chronologically in time in the Snake River, 1962-2023. The upper most dams at the times of the fish counts were Ice Harbor 1962-1968, Lower Monumental 1969, Little Goose 1970-1974, and Lower Granite 1975 to present. NOAA ESA Minimum Abundance Threshold identified by (Black) horizontal line. Escapement goal to tributaries for the aggregate of all populations identified by (Gray) horizontal line.

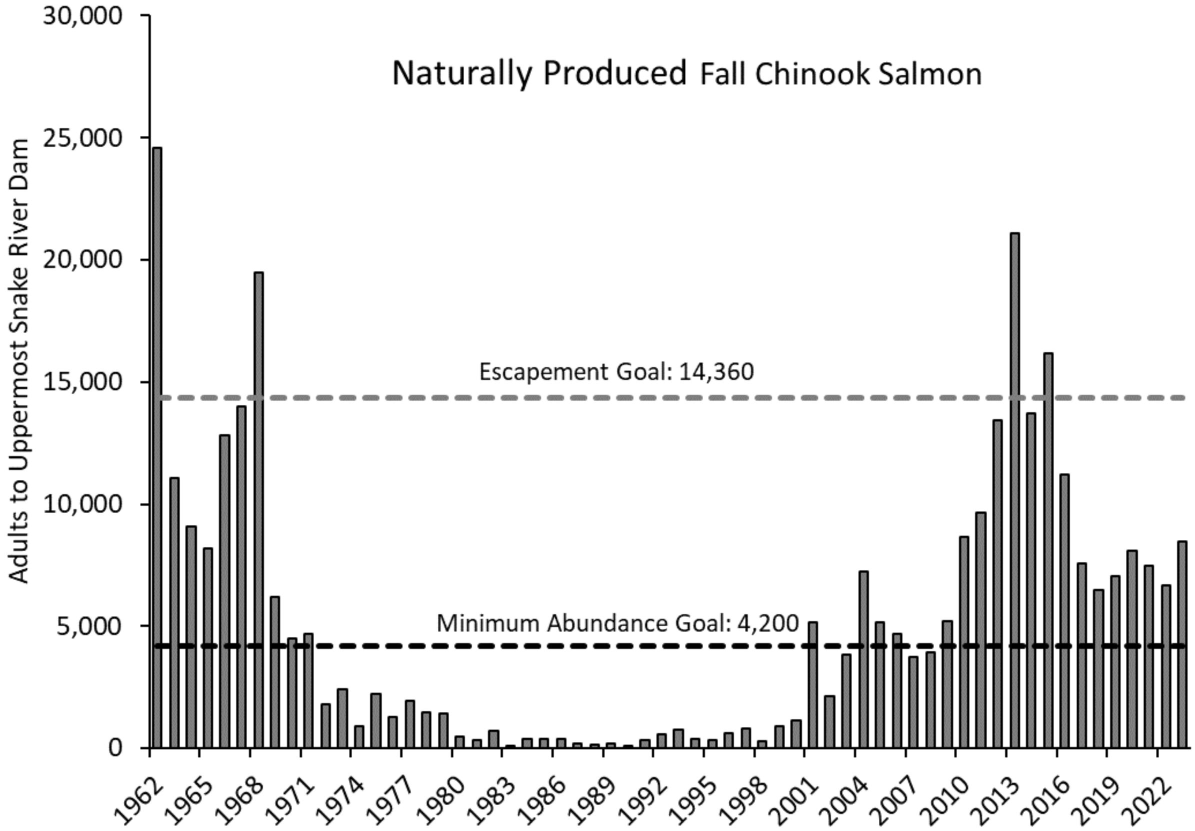


Figure 5. Historic adult passage of naturally produced fall Chinook Salmon at the upper most dam and counting facility chronologically in time in the Snake River, 1962-2023. The uppermost dams at the times of the fish counts were Ice Harbor 1962-1968, Lower Monumental 1969, Little Goose 1970-1974, and Lower Granite 1975 to present. NOAA ESA Minimum Abundance Threshold identified by (Black) horizontal line. The escapement goal to tributaries for the aggregate of all populations identified by (Gray) horizontal line.

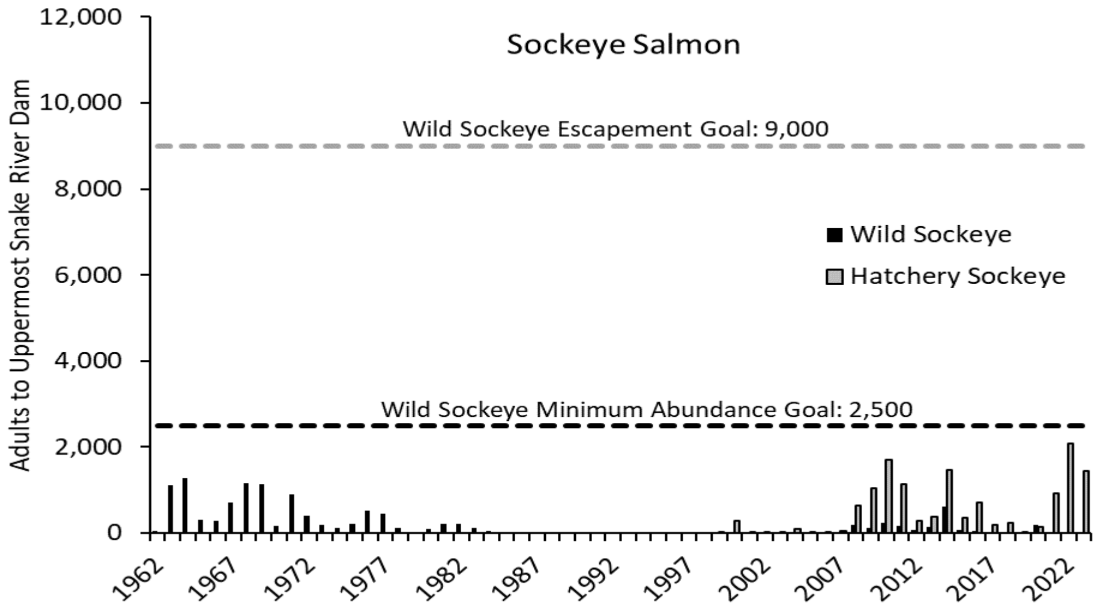


Figure 6. Historic adult passage of Sockeye Salmon at the uppermost dam and counting facility in the Snake River, 1962-2023. The uppermost dams at the times of the fish counts were Ice Harbor 1962-1968, Lower Monumental 1969, Little Goose 1970-1974, and Lower Granite 1975 to present. NOAA ESA Minimum Abundance Threshold is identified by (Black) horizontal line. The escapement goal to tributaries for the aggregate of all populations is identified by (Gray) horizontal line

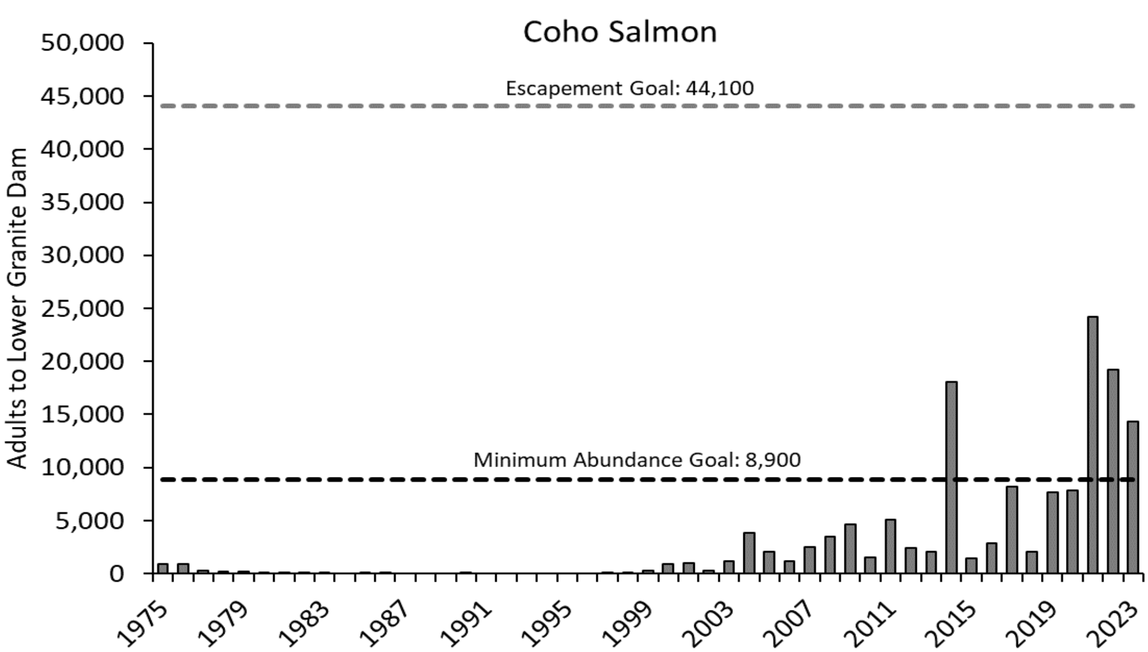


Figure 7. Historic adult passage of Coho Salmon at Lower Granite Dam, 1975-2023. The minimum abundance goal is identified by (Black) horizontal line. The escapement goal to tributaries for the aggregate of all populations is identified by (Gray) horizontal line.

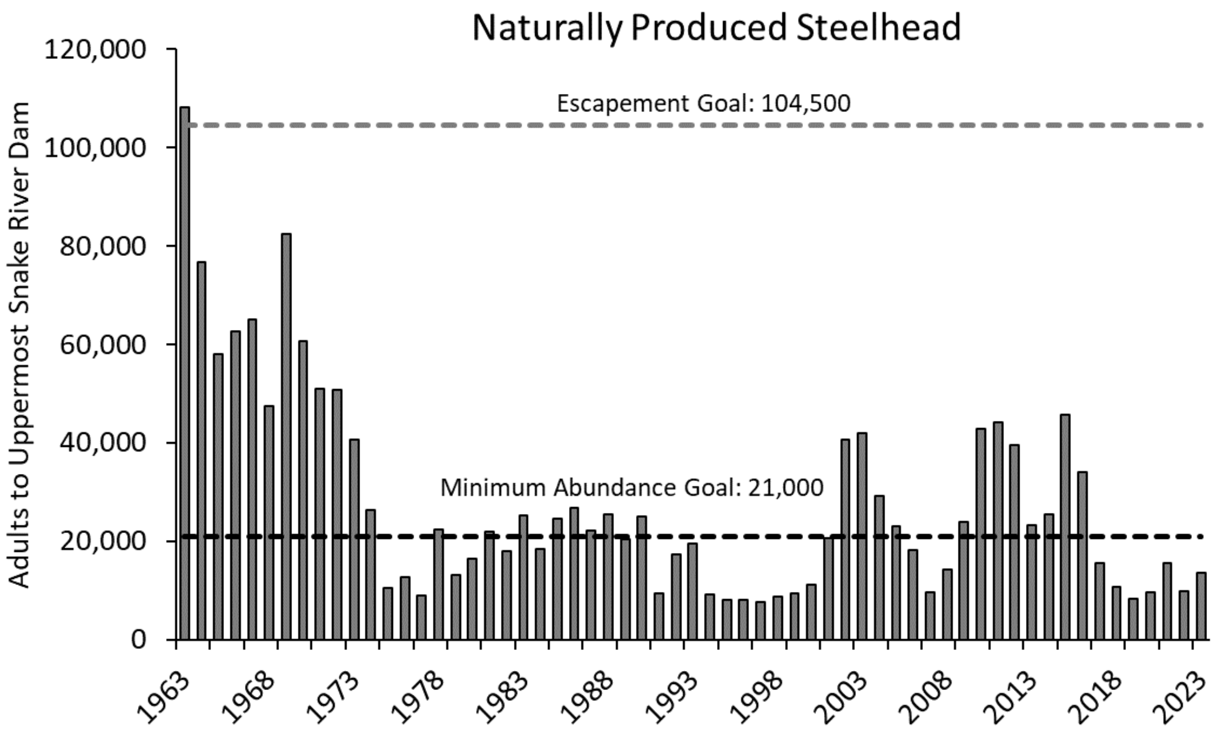


Figure 8. Historic adult passage of naturally produced summer steelhead at the upper most dam and counting facility chronologically in time in the Snake River, 1963-2023. The upper most dams at the times of the fish counts were Ice Harbor 1963-1968, Lower Monumental 1969, Little Goose 1970-1974, and Lower Granite 1975 to present. NOAA ESA Minimum Abundance Threshold is identified by (Black) horizontal line. The escapement goal to tributaries for the aggregate of all populations is identified by (Gray) horizontal line.

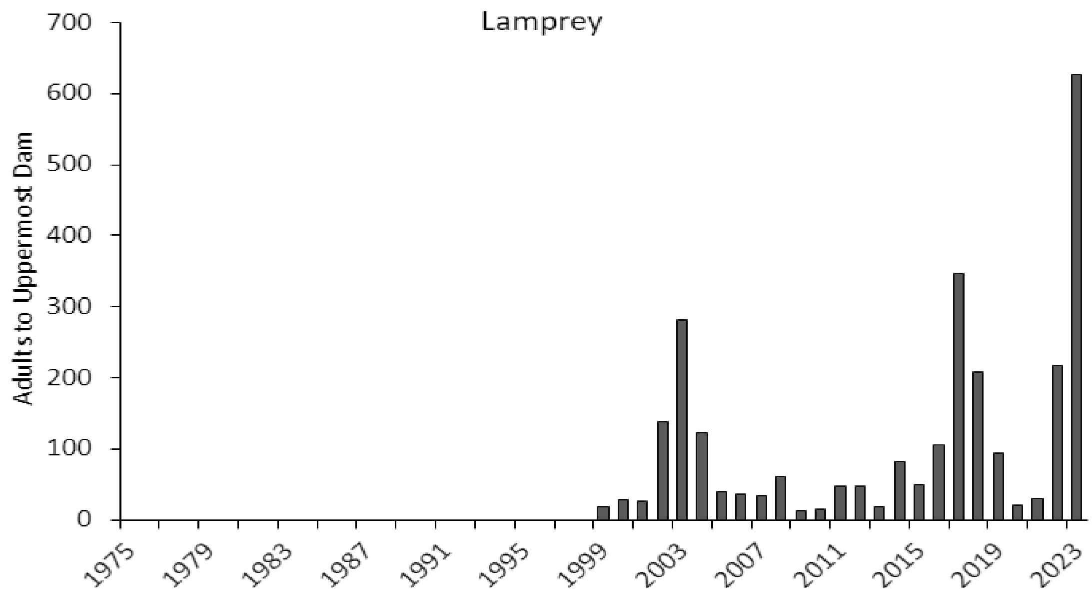


Figure 9. Historic adult passage of Pacific Lamprey at Lower Granite Dam, 1975 to present.

Columbia River Regional Management Forums

Participation in Columbia River management forums is vital to meeting long-term management goals and objectives. The Department engages with state and federal agencies and tribes in fisheries management forums (US v OR Management Agreement, Columbia River Interstate Compact, Northwest Power and Conservation Council, Pacific Fisheries Management Council, Pacific States Marine and Fisheries Commission, Pacific Lamprey Conservation Initiative, Pacific Northwest Aquatic Monitoring Partnership, among others) to strengthen the scientific foundation from which various management alternatives are considered and to make biologically-based recommendations to the Fish and Game Commission, State of Idaho, NOAA Fisheries, and other policy forums.

Improvement in juvenile and adult survival associated with migration through the lower Snake and Columbia rivers provides our best opportunity for enhancement of all salmon and steelhead populations, wild or hatchery, in Idaho (IDFG 1998). The Department will continue to use its technical expertise to improve the survival of juvenile and adult salmon and steelhead. Forums included in this process are the Fish Passage Advisory Committee, Technical Management Team, Comparative Survival Study Oversight Committee, the Pinniped-Fishery Interaction task force, and the Columbia Basin Collaborative. The Department will focus expertise on fish passage recommendations related to flow, spill, and hydrosystem management with additional focus on predation monitoring and management.

Native and Wild/Natural-Origin Fish Management

For management purposes, the Department classifies salmon and steelhead into three groups as follows: Native, wild/natural, and hatchery fish. “Native” fish are produced from populations which have no history or evidence of reproductive introgression with hatchery or non-native fish. These populations are managed without direct hatchery intervention. Wild/natural-origin fish are produced from natural spawning and rearing but may be the offspring of either hatchery or wild parents and/or introduced stocks. For example, spring Chinook Salmon that spawn in the

Clearwater River basin would produce offspring managed as “wild/natural-origin fish,” because the former populations were extirpated and reestablished using hatchery-origin fish.

One of the keystones in maintaining the genetic and life history diversity of Idaho’s salmon and steelhead populations was the establishment of native salmon and steelhead management areas. Native salmon and steelhead management areas were established intentionally to provide areas where native fish would have priority management status and there would be no direct hatchery intervention. The wild/natural-origin fish management areas documented in Table 4 will be maintained over the life of this plan. Many of the areas in Table 4Table 4 overlap areas classified as wilderness or Wild and Scenic rivers. In addition to protecting genetic and life history variation, these areas provide control populations (i.e., no treatment) that provide contrast for evaluating various management actions and provide insight regarding the effects of environmental variability versus management actions.

Maintaining genetic integrity and diversity of the wild stocks is considered essential to continued production of fish adapted for specific habitat in Idaho rivers and streams, as well as being the only practical means of fully utilizing the production capability of wilderness streams. Preserving the current diversity of populations is critical so that survival improvement effected by management changes in the four "H’s” (hatcheries, harvest, habitat, and hydropower) or by natural environmental variables, such as ocean regime, can be capitalized on for rebuilding and recovery.

Table 4. Native and wild/natural-origin fish management areas for Spring and Summer Chinook Salmon and summer steelhead.

Spring and Summer Chinook Salmon
<u>Salmon River</u>
• Salmon River tributaries from mouth to Middle Fork Salmon River, excluding Little Salmon and South Fork Salmon Rivers
• Secesh Drainage (South Fork Salmon River tributary)
• Middle Fork Salmon River Drainage
• Valley Creek
Summer steelhead
<u>Clearwater River</u>
• Lower Clearwater tributaries excluding Lolo Creek drainage
• Lochsa River Drainage
• Selway River Drainage
<u>Salmon River</u>
• Salmon River tributaries from mouth to Middle Fork Salmon River, excluding Little Salmon River
• Rapid River (Little Salmon River tributary)
• Middle Fork Salmon River Drainage

Salmon and Steelhead Harvest

The Department will seek to ensure sufficient returns of anadromous fish to Idaho waters through negotiation or legal means to perpetuate both naturally- and hatchery-produced runs and to allow Idaho anglers to access their equitable share of Idaho-origin salmon and steelhead, in sport fisheries. Additionally, efforts will continue in the Columbia River regional and Idaho forums to limit harvest impacts on stocks in low abundance while maintaining access to harvestable shares of returning fish. Historical through current harvest in Idaho sport fisheries is presented below in Figure 10Figures 10 and 11.Figure 11

Opportunities for directed sport fisheries on conservation populations (as defined above) will only be explored when abundances are sufficient. At low abundances, this management strategy prohibits directed harvest and/or angling in order to minimize mortality. In most fisheries, wild/natural-origin fish will be classified as “native” and protected through regulations preventing harvest. The majority of hatchery-origin fish will be adipose fin-clipped to allow for management of selective harvest fisheries. Sport fishery impacts on returning naturally produced fish will continue to be monitored and reported to NOAA fisheries annually as outlined in the Department’s Fisheries Management and Evaluation Plans.

Tribal ceremonial fisheries will continue to take precedence over sport fisheries when returns are not adequate to support both tribal and sport fisheries. The Department will work with tribal nations in Idaho to develop ceremonial harvest opportunities in years when fish for treaty subsistence harvest are not available. When returns are sufficient for tribal subsistence or commercial harvest, tribal and sport fisheries will have the opportunity to access the harvestable share.

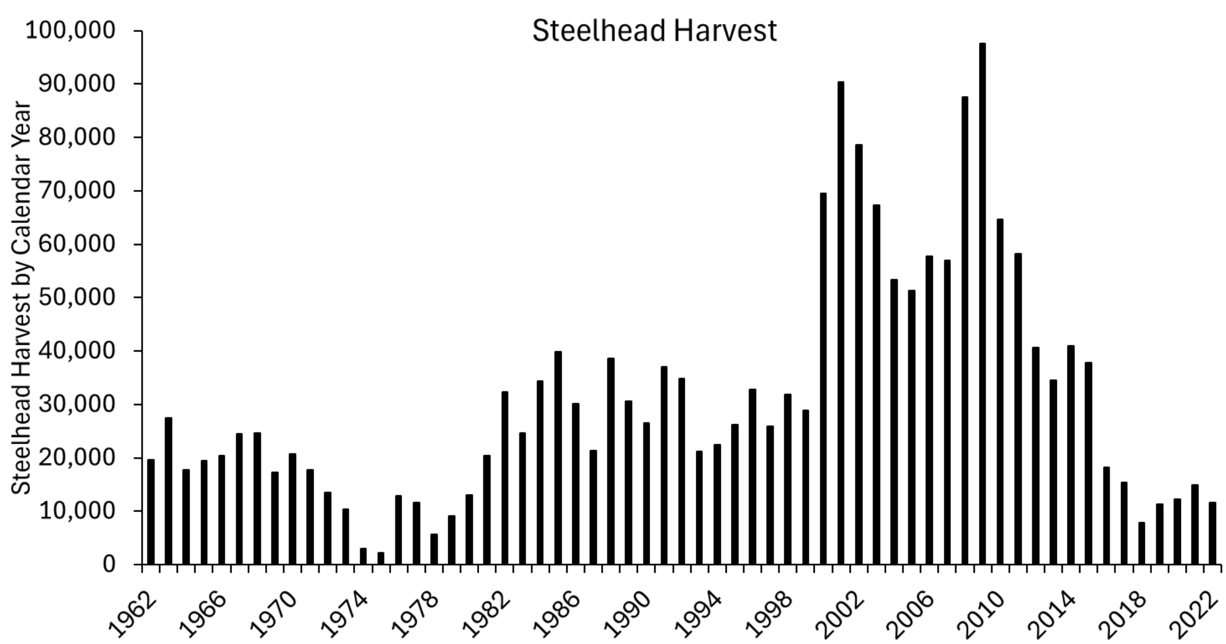


Figure 10. Harvest of summer steelhead in Idaho sport fisheries from 1962-2022. Harvest of wild steelhead was prohibited after 1986.

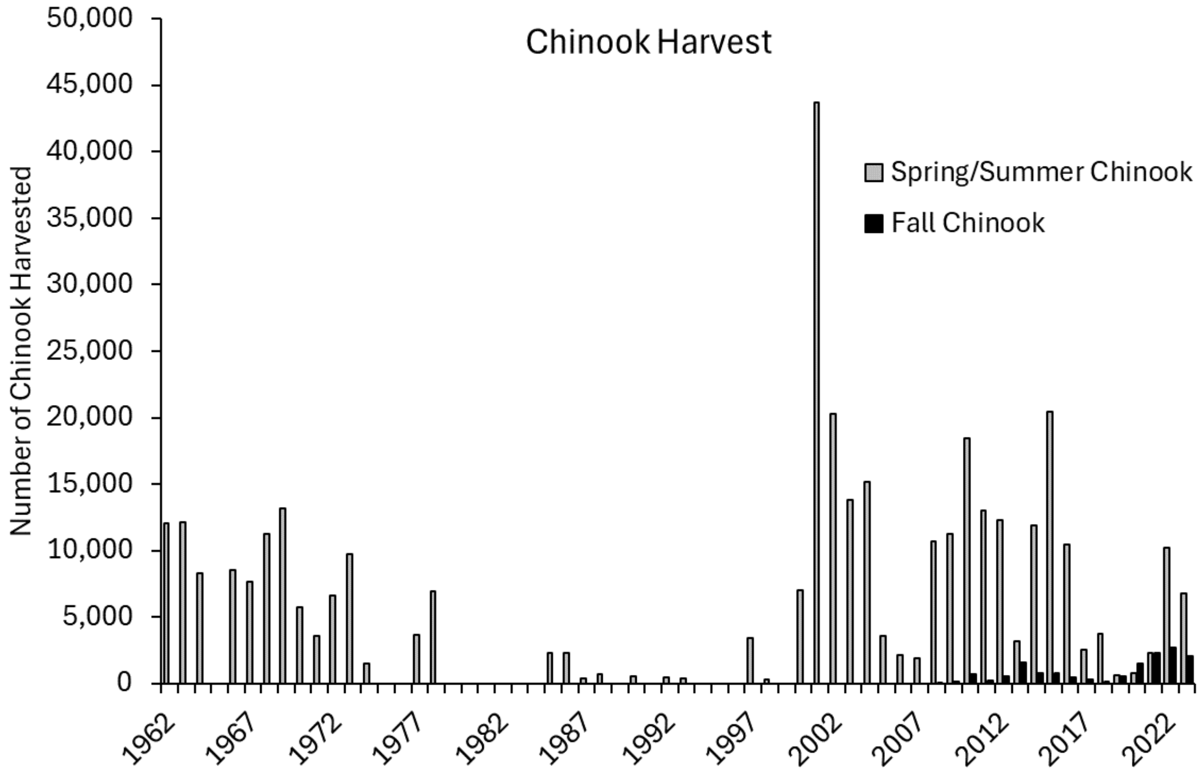


Figure 11. Harvest of adult spring and summer Chinook Salmon and fall Chinook in Idaho sport fisheries from 1962-2023. *From 1985-1999 and 2001-2003, jack salmon were also included in the harvest estimates. Harvest of wild Chinook was prohibited after 1978.

Hydropower System

The role of the Department is to help strengthen the scientific foundation from which various management alternatives are considered and to make biologically-based recommendations to the Commission, State of Idaho, NOAA Fisheries, and other policy forums. Regional efforts to achieve improved survival of Snake River salmon and steelhead continue as an important management activity. Improvement in juvenile and adult survival associated with migration through the lower Snake and Columbia Rivers provides an opportunity for enhancement of all salmon and steelhead populations, naturally or hatchery produced, in Idaho (IDFG 1998). The Department will continue to use its technical expertise directed at in-season and longer-term assessments to explore opportunities to improve survival of juvenile and adult salmon and steelhead.

We anticipate a continued need for use of cold water from Dworshak Reservoir to reduce temperatures experienced by summer migrants in the lower Snake River. We expect continued implementation of Upper Snake River flow augmentation that is consistent with Idaho statutes, key state and tribal agreements, an Upper Snake River Biological Opinion for Bureau of Reclamation (BOR) projects, and IPC relicensing terms and conditions. The focus of flow augmentation is expected to be the late spring to early summer migration periods.

The Department will focus expertise on both in-season fish passage recommendations and on continuing assessment of river migration conditions. The position of the Department remains to create optimal in-river migration conditions and to transport collected juvenile fish when the scientific information indicates that their survival will be high relative to in-river migrants. Key to near- and long-term actions will be risk assessment to judge the effectiveness of actions within the context of environmental variability.

Ongoing Management

Since 2009, Snake River basin salmon and steelhead stocks have been monitored using genetic techniques that analyze fin tissues sampled from fish at Lower Granite Dam. Naturally produced returning stocks are monitored using Genetic Stock Identification (GSI) and hatchery fish are monitored using Parentage-Based Tagging (PBT). These techniques provide improved abundance estimates, accurate assessment of hatchery and naturally produced fish, and demographic information such as age and sex. These techniques also improve our understanding of steelhead life-history diversity across drainages with respect to age, size, and run timing. For example, all spawning summer steelhead stocks in the Snake River basin can have returning adults that spent two years in the ocean, however, the proportion of those fish are much higher and more dominant in some drainages like the Lochsa and Selway rivers. These genetic tools allow managers to better track specific stocks across time and proportion the total aggregate run of returning fish at Lower Granite Dam into specific management units by drainage or major population group.

Management actions during this planning period include the continued evaluation of supplementation activities (see the Anadromous Hatchery Chapter); releases of hatchery juveniles for future harvest opportunities; habitat restoration activities to restore and increase historic spawning habitat; screening of irrigation diversions; harvest of hatchery-origin fish; monitoring and evaluation of hatchery-origin fish, and continued monitoring of abundance, productivity, and key life-history traits of natural-origin fish. Summer steelhead fishery management units addressed in this plan include the mainstem Snake River, mainstem Clearwater River, Middle Fork Clearwater River, North Fork Clearwater River, South Fork Clearwater River, Salmon River, and Little Salmon River. Four artificial production programs in Idaho are also considered to be part of the listed steelhead Distinct Population Segment: Dworshak National Fish Hatchery, Lolo Creek, North Fork Clearwater River, and East Fork Salmon River.

Fish Hatchery Program

The first hatchery in Idaho was built in 1907 (Hayspur Hatchery) and still functions as a state-operated hatchery, over 100 years later. Currently the Department operates 21 fish hatcheries, 10 fish trapping facilities, and one angler caught steelhead brood program (Figure 12). Hatcheries are categorized roughly as “resident” and “anadromous” though some facilities raise both categories of fish. Resident fish hatcheries raise trout species whereas anadromous fish hatcheries rear salmon and steelhead where most of the fish released migrate to the ocean before returning to Idaho. Funding for hatchery operations include fishing license revenue, USFWS Sport Fish Restoration Program (Dingell-Johnson), and hydropower mitigation programs of the IPC, Lower Snake River Compensation Plan, BPA, U.S. Army Corp of Engineers, BOR, PacifiCorp, Avista, and the city of Idaho Falls.

Resident Fish Hatcheries

The Department stocks over 15,000,000 fish annually from resident fish hatcheries. Fish are planted at various sizes (fry, fingerling, and catchable) and represent 17 species, including several strains of Rainbow Trout and early run and late run kokanee. Most hatchery fish are released in lowland lakes and reservoirs. Annually 240,000 trout and 17,000 grayling are stocked into high mountain lakes. Numerically, most fish raised and released are salmonids, with the remainder being Walleye, Channel Catfish, tiger muskie, and White Sturgeon. Rainbow Trout represent approximately 25% of the total number of resident salmonids stocked, Cutthroat Trout represent 10%, and kokanee salmon 60%. White Sturgeon are stocked through cooperative programs with the Kootenai Tribe and IPC (see Resident Fisheries Management: White Sturgeon for more detail).

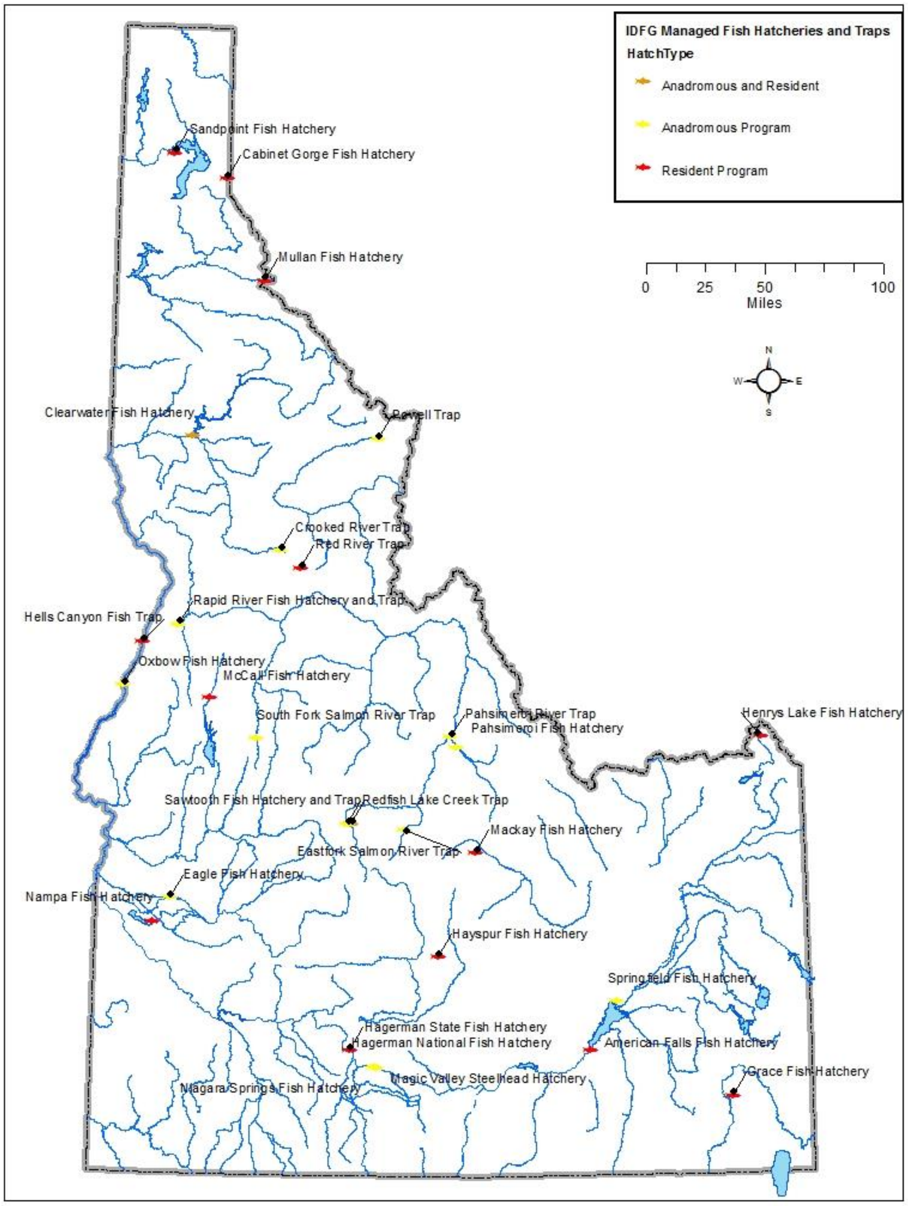


Figure 12. Map of Department-managed hatcheries and fish trapping facilities in Idaho. The hatcheries that raise resident fish are in red, anadromous fish (salmon and

steelhead) are in yellow, and those that are important for both anadromous programs and resident fish stocking are in brown.

The Department currently operates eight fish hatcheries dedicated to production of resident salmonids. The American Falls, Grace, Hagerman State, and Nampa fish hatcheries focus primarily on Rainbow Trout production, but also rear and stock multiple other salmonids, as well as tiger muskie produced at Hagerman. The Mackay Fish Hatchery production is the Department's most diverse, with regional Rainbow Trout, southern Idaho kokanee, and Henrys Lake stocking comprising the majority of the production. The Hayspur Fish Hatchery serves as the Department's Rainbow Trout broodstock facility, which supplies eggs to other Department fish hatcheries. The Cabinet Gorge Hatchery, built to mitigate for the loss of habitat due to the operation of Albeni Falls Dam, primarily produces kokanee and Westslope Cutthroat Trout. The hatchery also houses the Westslope Cutthroat Trout broodstock, which supplies eggs for statewide management programs. The Henrys Lake Fish Hatchery acts as an egg collection station. Yellowstone Cutthroat Trout eggs are collected from mature fish that return to the hatchery from the lake. Henrys Lake eggs are primarily released back to Henrys Lake but are also stocked in other programs statewide. Henrys Lake Hatchery also supplies Rainbow x Cutthroat Trout hybrid (hereafter hybrid trout) eggs. Three other facilities (Clearwater, McCall, and Sawtooth) stock resident fish in addition to their primary function as anadromous fish hatcheries. There are two additional facilities dedicated specifically to holding and redistribution of catchable-sized Rainbow Trout grown in southern Idaho hatcheries to waters of the Panhandle: 1) the Mullan Fish Hatchery, which is owned by the Shoshone County Sportsman's Association and focuses on stocking in the Silver Valley; and, 2) the Sandpoint Fish Hatchery, which is also the site of the Sandpoint Water Life Discovery Center habitat education and interpretive area. The Department's high mountain lake stocking program is supported by fish production at the Mackay, McCall, and Cabinet Gorge fish hatcheries.

Conserving the genetic purity of wild/natural trout stocks is a Department priority. Stocking sterile trout in waters where the introduction of non-native genetics represents a potential risk to naturally reproducing populations helps reduce or eliminate the risk of introgression and hybridization. If there is no genetic risk to native trout species, the Department may consider supplementing native/natural stocks with reproductively viable fish for conservation or sport fishery purposes.

The Hayspur Fish Hatchery produces reproductively sterile Rainbow Trout eggs for the statewide fish production program, allowing sterile fish to be stocked where deemed appropriate. Routine monitoring ensures that sterility rates remain high. The Department has conducted research to induce sterility in other species including Cutthroat Trout, hybrid trout, Brook Trout, Lake Trout, tiger trout, Fall Chinook Salmon (for landlocked fisheries), and kokanee. These sterile hatchery fish are used as appropriate to reduce genetic, competition, and predation risks to native trout while achieving fisheries management objectives. In addition to producing Rainbow Trout from our own broodstock, the Department also purchases sterile Rainbow Trout eggs from commercial suppliers.

The Department puts a high priority on fish health in both hatchery and native stocks and has participated in the development of, and adheres to, fish health guidelines set forth by the Pacific Northwest Fish Health Protection Committee. The Department's Eagle Fish Health Laboratory provides fish health and diagnostic services to hatcheries, assists regional personnel in monitoring disease, diagnoses fish kills, and detects pathogens in wild populations. The primary goals of the fish health program are: to reduce the threat of introduction of new or exotic pathogens to the State of Idaho; to avoid amplifying any pathogens of concern that already occur in hatchery fish or wild fish; to limit the possibility of spreading endemic disease agents through

Departmental activities; and to enhance hatchery fish health and smolt quality to assist in the restoration of salmon and steelhead.

During this planning period, the resident fish hatchery program will focus on continuing to meet fisheries management needs statewide, working cooperatively with fisheries researchers and managers to maximize program effectiveness in using hatchery products to benefit anglers and achieve conservation goals. Hatcheries and hatchery budgets will be used at their maximum capacity to produce fish to achieve these ends. Fishing opportunity can be increased and improved by increasing efficiency of put-and-take trout programs through: 1) concentrating releases of catchables in easily accessible, heavily-fished waters; 2) timing releases to coincide with peaks in fishing pressure; 3) publicizing the location of stocked trout; 4) producing 12" size catchable Rainbow Trout for large waters; and 5) producing a consistently high quality product at the hatcheries. These measures are supported by well maintained, functional hatchery facilities, and the Department therefore will continue to invest in critical hatchery infrastructure such as rearing units, water supply systems, fish stocking equipment, predator exclusion and disease prevention structures, and employee housing. Stocking information is made available to the public through the Department website.

Anadromous Fish Hatcheries

Idaho's anadromous fish hatcheries were built to mitigate for lost harvest opportunity associated with decreased natural salmon and steelhead production and survival due to hydroelectric development on the Lower Snake River downstream of Lewiston, Idaho; the North Fork of the Clearwater River near Orofino, Idaho; the Hells Canyon stretch of the Snake River; and the Columbia River. The "anadromous" fishery management classification refers to management of fish species that are spawned and reared in freshwater, but migrate to the ocean as juveniles and return one to several years later as adults. The goal of anadromous hatcheries is to produce fish that can support harvest opportunity on hatchery-origin fish while protecting wild and natural-origin fish (see Part 2 – Fishery Management Plans by Drainage). Anadromous fish hatcheries in Idaho are operated not only by the Department, but also by the USFWS and NPT. The Shoshone-Bannock Tribes (SBT) are likely to have a hatchery focusing on anadromous species come online during this management period. Current production goals for all anadromous releases in Idaho total approximately 13.7 million spring and summer Chinook Salmon smolts, 4.5 million fall Chinook Salmon smolts, 1.1 million Coho Salmon smolts, 7.9 million steelhead smolts, and 1 million Sockeye Salmon smolts as partial mitigation for losses to Idaho-bound runs. Of these release goals, Department-operated facilities are responsible for: 10.75 million spring and summer Chinook Salmon smolts produced at the Clearwater, Rapid River, Sawtooth, Pahsimeroi, and McCall fish hatcheries; 1 million Sockeye Salmon smolts produced by the Springfield and Eagle fish hatcheries; and 5.75 million steelhead smolts produced at the Niagara Springs, Magic Valley, Hagerman National, and Clearwater fish hatcheries. Management of the Department's Chinook Salmon and steelhead hatcheries is focused on producing and releasing juvenile fish to provide harvest opportunity on resulting adult fish returns.

Since the 1970s, hatchery-produced fish have provided the only sport fishing harvest opportunity for most anadromous salmon and steelhead in Idaho. In recent years, some sport harvest of natural populations of Fall Chinook has been possible. Although the primary objective of the hatcheries is to provide harvest opportunity, fisheries can be considered only when: 1) numbers of returning hatchery-produced adults are surplus to hatchery broodstock needs; and 2) incidental impacts to non-target fish stocks are minimal. Since 2001, the steelhead hatchery program has regularly met smolt production and adult return goals and has provided consistent fisheries. Smolt-to-adult survivals realized by spring and summer Chinook Salmon produced by Idaho hatcheries have proven to be lower than projections of survival that informed the development and size of some hatchery programs, and this has resulted in adult returns that have not met adult mitigation goals established for most facilities. However, some level of harvest opportunity has typically been provided in the Snake River below Hells Canyon Dam and in the Clearwater and Salmon River drainages since 2010.

A secondary objective of the anadromous fish hatcheries is to preserve and rebuild natural stocks. The Department will continue to carefully assess the risks, benefits, and effectiveness of using hatchery fish to increase numbers of fish in the environment. Evaluation and implementation of supplementation programs targeting natural-origin fish populations is regionally coordinated. The ongoing steelhead supplementation program for the East Fork of the Salmon River which uses natural steelhead collected at the East Fork Salmon River weir is one example of these programs. Another example is the integrated broodstock programs which were initiated at Sawtooth, McCall, and Pahsimeroi hatcheries in 2010. The integrated brood programs incorporate natural Chinook Salmon into a portion of the hatchery broodstock. By integrating the hatchery broodstocks, managers are attempting to let the natural environment drive selection in hatchery integrated program populations and therefore reduce risks associated with hatchery-origin fish spawning naturally and maintain long-term productivity of the natural populations. Efforts to integrate natural and hatchery Chinook Salmon production will continue during this planning period. Ongoing monitoring of these efforts and further research to guide current and future hatchery actions to rebuild natural-origin populations and reduce the risk of hatchery programs on wild and natural-origin populations is described in the Fisheries Research and Monitoring section.

The Department also raises endangered Sockeye Salmon at the Eagle and Springfield hatcheries to prevent extinction and rebuild population numbers. The Eagle Hatchery serves as a captive broodstock facility where adults are spawned and a portion of the juveniles are reared from egg to adult in captivity as a safety net and gene bank. A second redundant captive broodstock is housed at National Marine Fisheries Service facilities in Washington state. Eggs from each of these facilities are transferred to Springfield hatchery and reared to the smolt life-stage. Springfield Hatchery is the primary production facility for Sockeye Salmon, capable of rearing and releasing up to 1 million smolts. These hatcheries are vital to the continued propagation and enhancement of the species.

The Department's anadromous hatchery program will: 1) strive to maximize the survival of juvenile fish to adulthood using effective disease control, fish culture practices, and release strategies; 2) produce sufficient numbers of fish to maintain and enhance sport and tribal salmon and steelhead fisheries; and 3) implement experimental supplementation programs as appropriate and as guided by current genetic theory and science. Anadromous hatcheries may also be used to help conserve salmon and steelhead populations at high levels of demographic, genetic, or environmental risk until life-cycle survival permits natural rebuilding. The Department will continue to mark or tag the majority of juvenile hatchery fish prior to release, so that returning hatchery-produced adults can be identified in selective harvest fisheries, broodstock management, and supplementation programs.

The Department will continue to test hatchery intervention strategies and implement them where necessary and ecologically prudent to provide a safety net for populations at risk. Implementation of these measures will carefully balance the genetic and demographic risks of hatchery intervention strategies with the imminent risk of extinction and low abundance. Because of uncertainties in effectiveness of hatchery intervention strategies, as well as the need for continued research, the Department will implement a suite of approaches while maintaining anadromous refuge areas without hatchery intervention. This approach will guide Department assessment of all supplementation proposals.

Numbers of adult hatchery-origin salmon and steelhead returning to the Snake River basin are presented in Figures 13-16. Similar to the suite of escapement goals presented for wild and natural-origin adults, minimum return goals for hatchery-origin adult salmon and steelhead to Lower Granite Dam on the Lower Snake River are also identified.

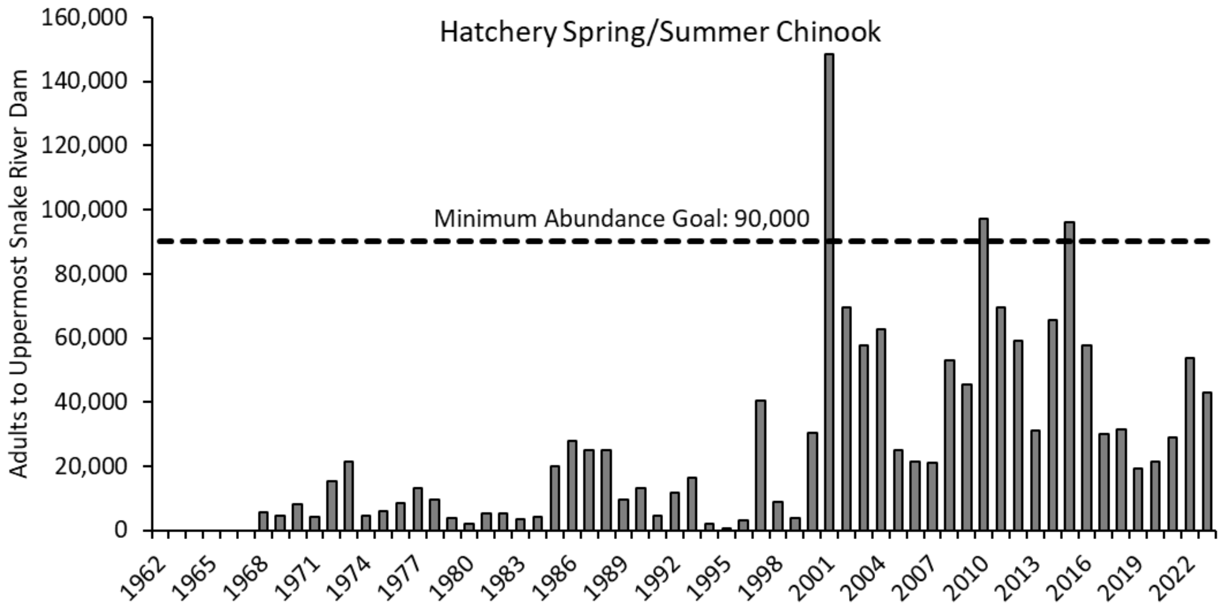


Figure 13. Numbers of hatchery-origin, adult spring/summer Chinook Salmon counted at the most upstream Lower Snake River Dam (1962 – 2023).

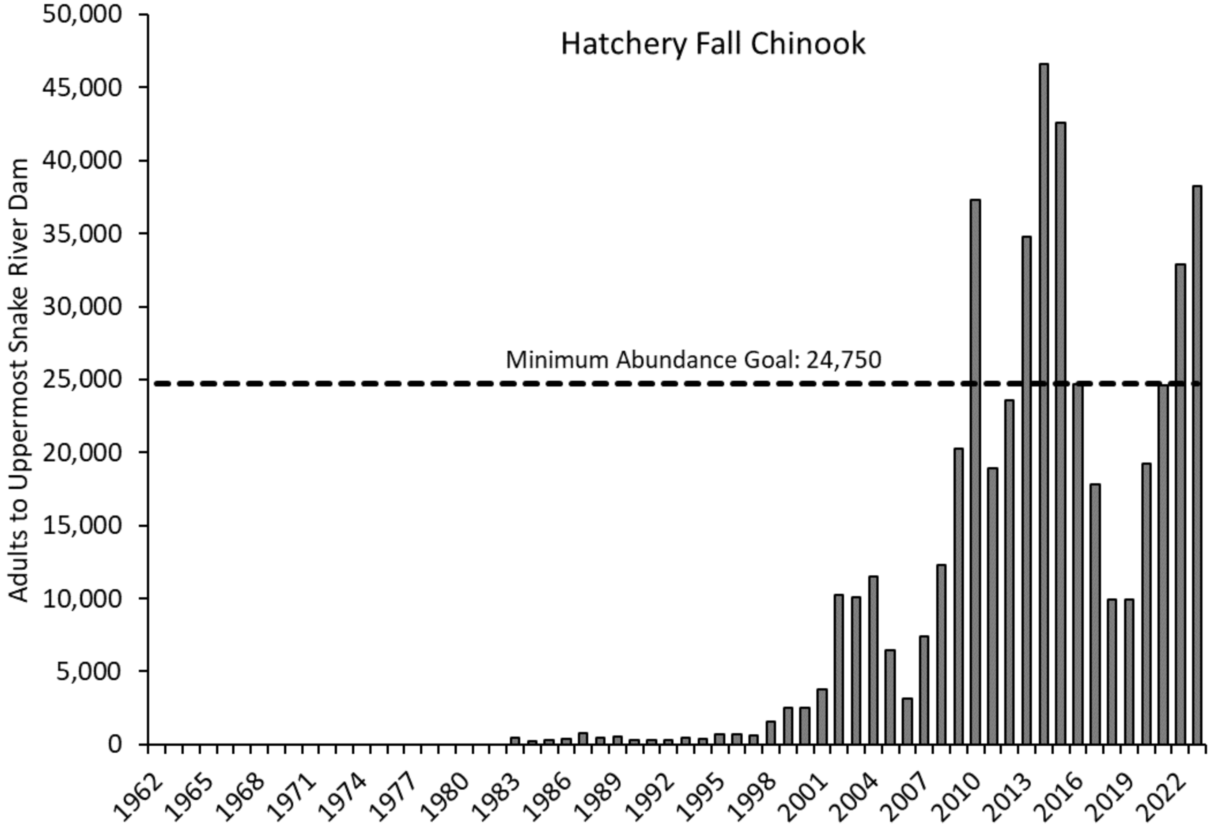


Figure 14. Numbers of hatchery-origin, adult fall Chinook Salmon counted at the most upstream Lower Snake River Dam (1962 – 2023).

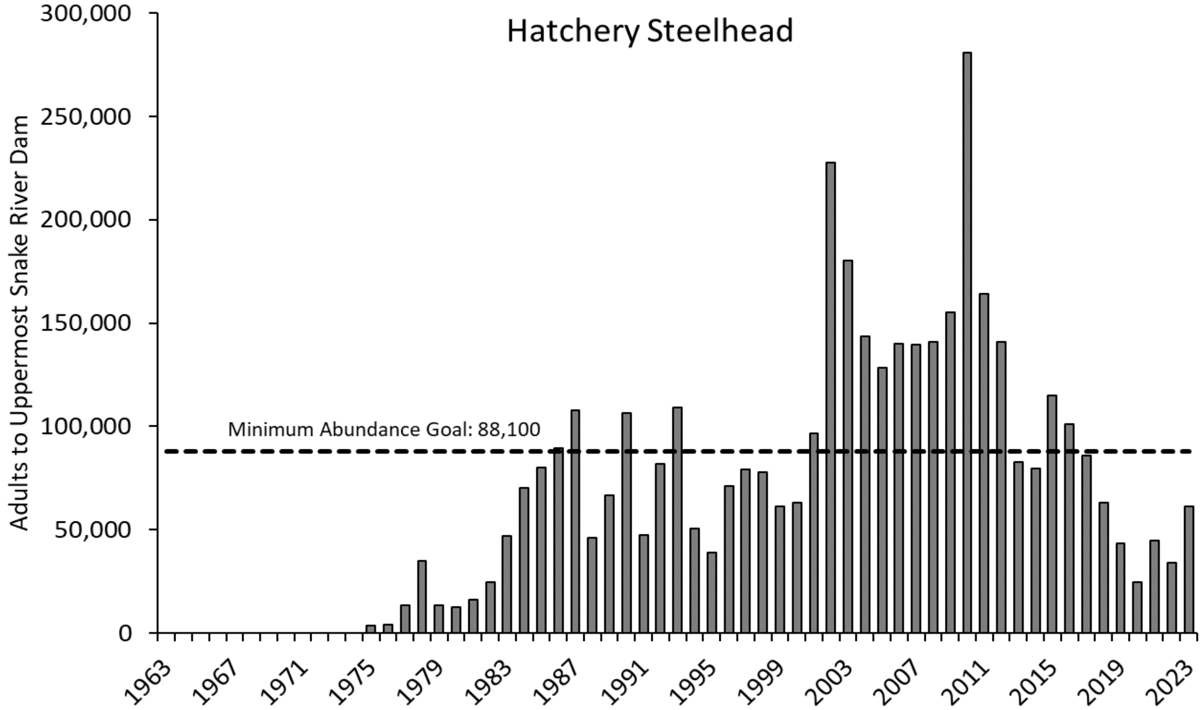


Figure 15. Numbers of hatchery-origin, adult summer steelhead counted at the most upstream Lower Snake River Dam (1963 – 2023).

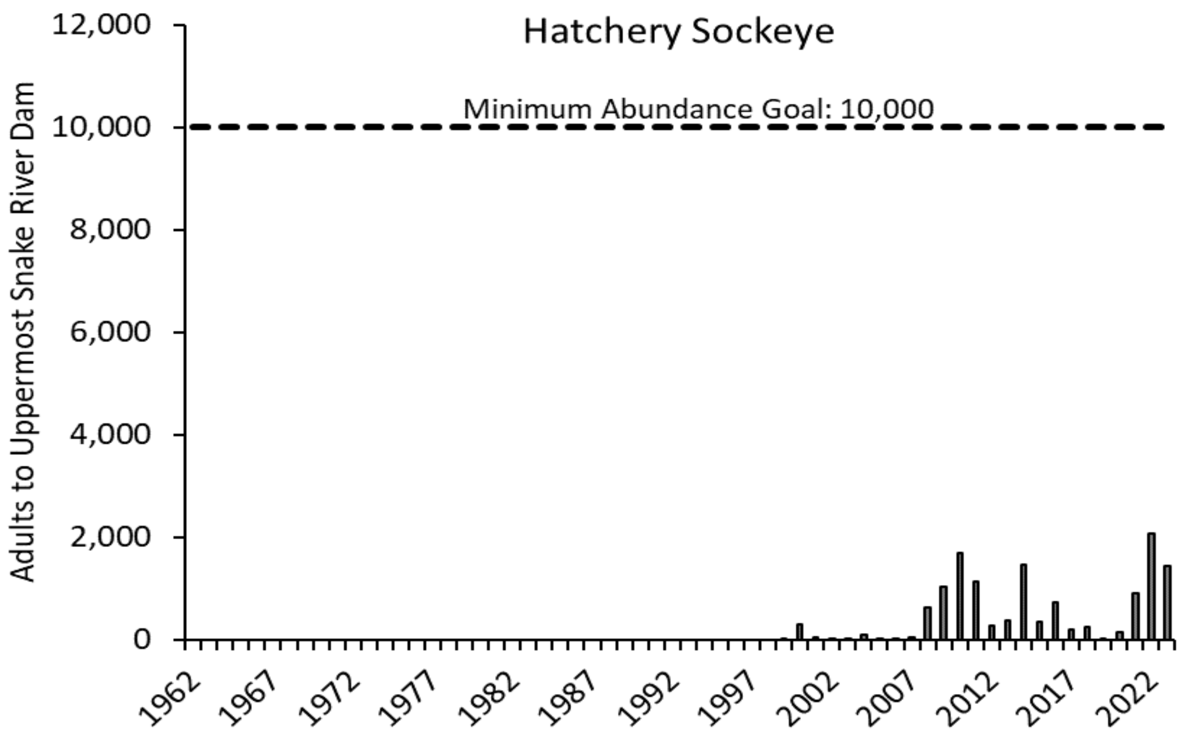


Figure 16. Numbers of hatchery-origin, adult Sockeye Salmon counted at the most upstream Lower Snake River Dam (1962 – 2023).

Fisheries Research and Monitoring

Research and monitoring are inseparable components of fisheries management. Management is a science-based activity that requires rigorously developed, credible information to identify limiting factors and determine the likelihood that management actions have, or will, achieve fishery objectives. Those objectives should balance the tradeoffs between angler use of a resource and the perpetuation of that resource for continued supply, and research is required to evaluate that balance. The mission of the Fisheries Research and Monitoring program is, "To develop and effectively communicate scientifically sound information and tools to enhance the management of Idaho's fisheries." The fisheries research and monitoring section has five organizational components: anadromous fish mitigation and population monitoring, resident fish species mitigation (both 100% Federal funding), program management/technical support (both funded 75% with federal sport fish restoration or Dingell-Johnson funds), and a genetics program which supports research and management. The Fisheries Research and Monitoring Program is funded from Federal, state and private (e.g., IPC) funds.

In the presence of uncertainty, management is often adaptive; that is, learning is emphasized so that management can be adjusted and improved as new understanding is gained. Sources of uncertainty regarding fish populations include: a high degree of annual variability in important processes (e.g., recruitment, mortality rates), logistical difficulties in making relevant measurements, and imperfect understanding of influential factors. Monitoring and research efforts should focus on four main questions:

1. What are the biological, life history, and population dynamics characteristics of the target population(s)?
2. How do management actions (e.g. regulations, habitat restoration) influence population characteristics and how likely are those actions to result in desired management objectives such as abundance, size structure, fishery catch rates, or angler satisfaction?
3. What factors limit target population(s) from meeting management objectives?
4. What critical uncertainties need to be addressed to improve information generated by research and monitoring?

Resident Fisheries Research

Resident fish species mitigation research is designed to mitigate for fish populations impacted by development of the federal Columbia River hydropower system. Population monitoring, evaluation, and other findings are used to recover populations of White Sturgeon, kokanee, Rainbow Trout, Bull Trout, Burbot, and other species that have been adversely impacted by hydropower systems. The general direction of these research activities is coordinated with other resource agencies, provincial governments, Indian tribes, and federal or utility funding entities and set through funding contracts (Table 5).

To provide direction for the remainder of the Department’s fisheries research program, a combination of management, hatchery and research personnel identified needed information and tools that would enhance fisheries management in Idaho. These research questions are being addressed by three separate Dingell-Johnson funded projects entitled Hatchery Trout Studies, Wild Trout Studies, and Lake and Reservoir Trout Studies. Research projects are prioritized on a 5-year rotation, with the current projects listed in Table 6Table .

Table 5. Resident species mitigation research activities, 2025-2030.

Resident Mitigation Research Activities
Evaluate potential factors limiting migration, spawning, and natural recruitment of Kootenai River White Sturgeon
Monitor population vital rates of Kootenai River White Sturgeon to determine population status in relation to recovery criteria identified in the Kootenai River White Sturgeon Recovery Plan and evaluate hatchery stocking strategies.
Evaluate potential factors limiting natural recruitment of Kootenai River Burbot and estimate population rate functions to inform hatchery production.
Monitor the Kootenai River Burbot fishery to estimate exploitation and angler catch rates to inform regulations and hatchery production targets.
Evaluate the effects of nutrient restoration and possibly habitat improvements on native fish communities in the Kootenai River.
Evaluate limiting factors for Rainbow Trout growth, survival, and recruitment in the Kootenai River, and develop solutions if needed.
Evaluate the kokanee stocking program in Lake Pend Oreille to adaptively manage and maintain abundant kokanee.
Reduce Lake Trout abundance and evaluate effects of associated predation reduction on kokanee in Lake Pend Oreille to promote Bull Trout and other native species and to enhance the fishery.
Reduce Walleye abundance and evaluate effects of associated predation reduction on kokanee in Lake Pend Oreille to promote Bull Trout and other native species and to enhance the fishery.
Monitor Rainbow Trout population to inform management of sport fishery and evaluate predation potential on kokanee in Lake Pend Oreille.
Evaluate Walleye and Northern Pike population trends, diet, distribution, sources of recruitment, angler exploitation, and potential impacts in the Pend Oreille River drainage.
Monitor Bull Trout population dynamics to evaluate harvest fishery opportunity in Lake Pend Oreille.
Evaluate Smallmouth Bass population status, components of total mortality, and distribution to inform management of the fishery in the Pend Oreille River drainage.
Evaluate trophic dynamics in Lake Pend Oreille to identify limiting factors for kokanee abundance and potential management actions.
Monitor fertilization efforts in Dworshak Reservoir to ensure continued benefits to the fishery.

Table 6. Management questions scheduled to be addressed by discretionary (Dingell-Johnson) research updated on a 5-year basis. Projects listed are for the current 2020-2024 cycle.

Management Questions
Hatchery trout studies
Does size-at-release affect fingerling kokanee stocking success in Idaho fisheries?
Does size-at-release affect the success of the high mountain lake salmonid stocking program?
Can current Rainbow Trout and Westslope Cutthroat Trout broodstocks be improved via strain replacement or management?
Are water hardness differences between rearing environment and stocking locations having an adverse impact on resident hatchery stocking programs?
Lake and reservoir studies
Has black bass growth and survival rates changed in Idaho, and do current fishing regulations affect contemporary growth or survival?
Are assessments of black bass populations affected by population sampling methods?
What effect are bass tournaments potentially having on bass mortality rates and bass populations in Idaho?
Would planting surplus hatchery trout eggs in biodegradable boxes in recruitment limited trout fisheries boost fish abundance?
Wild trout studies
Can YY male Brook Trout stocked in streams and HMLs eradicate undesirable populations by skewing sex ratio to 100% male?
Describe wild Brook Trout population dynamics in Idaho streams and HMLs to better predict responses to population suppression.
Are regulations needed to restrict trout angling during periods of warm water temperatures for population protection?
How are Mountain Whitefish populations trending across Idaho?
How are native salmonid populations trending in Idaho?
What is the rate of harvest and use of salmonids residing in Idaho HMLs?

Anadromous Research and Monitoring

Most populations of anadromous salmon and steelhead in Idaho are ESA listed. Monitoring of ESA listed populations is integrated with Federal ESA recovery and permitting processes via the Idaho Salmon and Steelhead Monitoring and Evaluation Studies and the Potlatch and Lemhi Intensively Monitored Watershed projects. Two projects are focusing on implementation of hatchery technologies to maintain genetic diversity, enhance natural populations, and ultimately restore listed natural-origin stocks to harvestable and sustainable levels. These two projects are the Integrated Chinook Salmon and Sockeye Salmon Captive Broodstock projects. The Department will maintain several anadromous mitigation research and monitoring projects during this management plan (Table 7). During the last planning period, the Department formalized a three-tiered approach to monitoring of spring and summer Chinook Salmon and steelhead:

Tier 1) Assess Evolutionary Significant Unit (ESU)/Distinct Population Segment (DPS) status and trend for Chinook Salmon and steelhead by sampling at Lower Granite Dam. Using genetic tools (genetic stock information and parental based tagging), estimate fish at Lower Granite Dam by major population group and by populations, where possible;

Tier 2) Intensive monitoring efforts are directed at selected populations to support life cycle modeling, leading to a mechanistic understanding of population dynamics. These efforts are high intensity in nature (known as ‘fish in, fish out’) and occur in locations with a suitable sampling infrastructure (e.g., a weir and rotary screw trap);

Tier 3) Extensive monitoring efforts are directed at the remaining populations. Extensive monitoring is conducted without sampling infrastructure. For Chinook Salmon, extensive monitoring is based on spawning ground surveys. For steelhead, extensive monitoring is based on snorkel surveys of parr abundance.

Genetic tools have evolved rapidly and now play a key role in fisheries management. Anadromous fisheries managers use genetic information to determine age-structure of hatchery returns, estimate productivity metrics (e.g. recruits per spawner), and to monitor stray rates between populations. The GSI and PBT programs provide information for a suite of fishery management and conservation issues. Importantly, information gained from genetic studies are being used by managers to assess current and future genetic risks, preserve existing genetic variability, delineate and prioritize populations for management purposes, identify suitable populations for translocations and reintroductions, broodstock development, and address genetic concerns in ESA petitions.

Table 7. Anadromous salmon and steelhead research, monitoring and evaluation efforts that will be addressed during the 2025-2030 planning period.

Anadromous Mitigation Research and Monitoring Projects
Monitor abundance and productivity of naturally produced Chinook Salmon, Sockeye Salmon and steelhead adults and juveniles at key locations.
Research and monitor distribution and population-specific life history patterns and characteristics of naturally produced Sockeye, Chinook Salmon and steelhead.
Document the contribution hatchery-produced salmon and steelhead make towards meeting management and mitigation objectives.
Monitor natural origin salmon and steelhead populations at Lower Granite Dam using genetic stock identification techniques.
Monitor Chinook Salmon and steelhead hatchery programs using genetic parental based tagging techniques.
Evaluate Chinook Salmon supplementation strategies to increase natural production in select areas.
Assist anadromous management programs through the development and implementation of integrated, web-based database systems (e.g., FINS and Stream Net).

Fish Habitat Program

Resilient fish populations depend on quality aquatic habitats and healthy watersheds, so protecting and restoring aquatic habitats is critical to maintaining Idaho's aquatic resources. Development, agriculture, timber harvest, road building, and mining practices have fragmented watersheds, altered ecological processes, and reduced the quantity and quality of fish habitat. The loss or degradation of these habitats results in decreased survival and abundance of fish populations.

Fish habitat restoration and enhancement should address factors that limit abundance, growth, survival, recruitment, and distribution of fish populations. Decreased stream complexity, reduced flow, entrainment, impaired riparian condition or water quality (e.g., temperature, sediment, pollutants), and barriers to migration are common limiting factors in Idaho's watersheds. Watershed assessments are a key starting point for habitat work and include a review of existing conditions, identification of limiting factors, and prioritization of actions to ensure the sequencing of projects occurs logically. Watershed assessments are often accomplished by multidisciplinary teams of biologists, engineers, hydrologists, geomorphologists, and other experts.

Common aquatic habitat restoration treatments include projects restoration of aquatic organism passage (AOP; e.g., culvert, bridge, or diversion modifications), water diversion screening, irrigation efficiency (e.g., piping, converting from flood to sprinkler, purchasing or renting water though transactions programs), and improving physical habitat complexity which may include adding large woody debris, rocks, channel manipulations or installation of beaver dam analogs or, restoration of beaver. Habitat protection may include conservation easements or fee-title acquisitions. For AOP projects removing one to several migration barriers can have outsized conservation outcomes as disconnected habitats are reconnected influencing several life stages restoring ecological processes.

Partnerships are the cornerstone of successful fish habitat projects. Collaborative efforts frequently include conservation organizations, federal agencies, local governments, private landowners, private companies, and the public to fund and develop projects. Stream banks, riparian habitats, and floodplains are often privately owned or surrounded by private land and private landowners interested in enhancing fish habitat are especially important. Conservation outcomes are maximized when working land uses and stakeholder interests and concerns are considered and addressed in project planning and development. By leveraging the strengths and expertise of a broad array of partners, the Department can implement more resilient and sustainable habitat conservation strategies that benefit both wildlife and local communities.

Funding for habitat restoration is acquired through multiple sources. Funds for salmon and steelhead habitat are provided by BPA to mitigate for the effects of hydropower generation in the lower Snake River and the Columbia River. The Pacific Coastal Salmon Recovery Fund (PCSRF) works to enhance and protect designated critical habitats in the upper Salmon River, its tributaries, and the Potlatch River. Both sources are administered through the OSC. Mitigation funding from hydropower or mining activities works to improve habitats in; the Blackfoot River, the Bear River, the South Fork of the Snake River (Yellowstone Cutthroat Trout), the Coeur d'Alene River, the Clark Fork River, and tributaries to Lake Pend Oreille (native salmonids). In areas without ESA-listed species or where mitigation funding isn't available, projects are developed through open competitive grants, partnering with private entities, conservation organizations, private landowners, and local governments.

Protecting and improving aquatic habitats has consistently been prioritized as the most important fish management activity in several of the past angler opinion surveys and the Department has worked to enhance staff resources and funding for fish habitat restoration. The Fish Habitat Program's budget and funding increased from 2019 to 2024. The scope, scale, and complexity of fish habitat projects has increased and large floodplain reconnection projects encompassing several miles of rivers and streams were implemented. Large passage barrier removal projects that were previously infeasible because of expense are now being addressed. Increased staff capacity allowed development and implementation of projects for resident fish species in watersheds with little or no history of established funding for fish habitat improvement.

Since 1958, the Anadromous Fish Screen program has worked to protect migrating salmon and steelhead and native trout that encounter hundreds of irrigation diversion structures in the upper Salmon River and its tributaries. Funded by the NOAA Mitchell Act and BPA, the program is responsible for installation, operation, effectiveness monitoring, and maintenance of approximately 260 fish screens. Construction of new screens has decreased, but structures require routine maintenance to operate effectively and within criteria established by NOAA and the Fish Screen Oversight Committee. Fish screens have a replacement cycle, and many screens are aging to the point that replacement is necessary. The Screen Program will ensure existing screens remain functional and effective.

The effectiveness of fish habitat enhancement projects is integral to the success of the Fish Habitat Program. Large-scale fish habitat effectiveness monitoring programs are ongoing in the Clark Fork drainage and Lake Pend Oreille tributaries, the Potlatch River, and the Lemhi River, and the Anadromous Screen Program monitors effectiveness of screens throughout the upper Salmon River and its tributaries. Effectiveness monitoring projects in the Potlatch River and the Lemhi River are primarily funded through the Intensively Monitored Watershed program and the PCSRF. Staff recently completed a comprehensive 15-year synthesis report with results and recommendations for restoration practitioners to incorporate into their project design and development process (Meyer et al. 2024).

The Bureau of Fisheries habitat restoration program strives to support the Department's mission by restoring resiliency and productivity of fish populations. A draft strategic plan for the fish habitat program has been developed (Kozfkay 2013). Many of these recommended strategies are also presented in Meyer et al. (2024) to increase efficiency and effectiveness in implementing meaningful restoration projects. The following principles and strategies will guide prioritization, development, and implementation of fish habitat restoration projects in Idaho.

1. Habitat restoration efforts will focus on native fish species, priority drainages, and private lands.

Strategies:

 a. Identify focal native fish species that are in the greatest need of habitat restoration efforts.
 b. Identify key drainages and sub-drainages for these species.
 c. Develop a project prioritization ranking system that could be used to rank projects across the state or within areas specified by funding entities.
 d. Protect and enhance natural reproduction of native aquatic species.
 e. Provide technical comments and recommend best management practices and/or restoration guidelines for instream or upland projects that could impact important areas of habitat. Look for opportunities to incorporate angler access.

2. Habitat restoration projects will be strategic, and implementation will focus on addressing limiting factors for fish populations.

Strategies:

a. Participate in watershed advisory groups, technical teams, and planning groups in priority areas.
b. Ensure that a drainage-wide assessment is performed and limiting factors are identified prior to planning and implementing habitat restoration efforts.
c. Ensure that any proposed project is designed to ameliorate primary limiting factors.
d. Ensure that efforts are focused on accomplishing high priority projects.
e. Lead or contract aquatic organism passage inventories in priority drainages.
f. Identify opportunities to enhance in-stream flows through formal agreements, water transactions, or irrigation efficiency actions.

3. Pre- and post-restoration monitoring efforts will be designed and executed to ensure statistical and inferential analyses are not confounded. Results and deliverables will help determine whether focal populations and habitats are responding to restoration efforts in a measurable way.

Strategies:

a. Ensure that evaluations are designed with clear and measurable objectives that link population response and habitat variables.
b. Monitor fish and habitat responses across a meaningful portion of a focal population's habitat.

4. Hire, train, and retain qualified employees.

Strategies:

a. Align staff and resources to meet the goals of the fish habitat program.
b. Recruit and retain talented employees within the fish habitat program.
c. Facilitate and provide training for employees by encouraging participation in training opportunities and involvement in professional societies.

5. Expand base funding dedicated to aquatic habitat restoration, which is imperative to meeting species recovery, population, and fisheries goals.

Strategies:

a. Investigate opportunities to develop annual funding base for the program that can support project implementation and/or be utilized as match on a competitive basis that accounts for statewide priorities.
b. Collaborate to create a comprehensive list of grants or funding opportunities for fish habitat projects, so that other regional programs may attempt to utilize similar funding opportunities.
c. Identify creative match types to facilitate acquisition of grants requiring non-federal match.

6. Collaboration with traditional and non-traditional conservation partners is of utmost importance to restore fish habitat.

Strategies:

a. Create a list of conservation partners that are actively involved in aquatic habitat restoration and protection in Idaho.

b. Create a list of stakeholders who could act as partners in fish habitat restoration efforts, including representatives or coalitions of industries that traditionally have been linked with fish habitat degradation.
c. Establish relationships with partners to identify commonalities and opportunities for collaboration.

7. Public support and knowledge of the importance of high-quality aquatic habitats must be increased through educational and outreach efforts.

Strategies:
a. Create outreach materials about restoration projects for distribution through local media, the Department's outlets, and to the respective professional societies commonly linked with fish habitat degradation.
b. Develop fish habitat curriculum for inclusion as part of the Trout-In-The-Classroom and Project Wild programs.
c. Develop a fisheries habitat tab on the Department's website. Page content should include descriptions of regional programs as well as past and on-going projects.

During the next six years, 2025-2030, the Department's Fish Habitat Program staff will collaborate to make sure these strategies are being followed or implemented.

Fishing and Boating Access

Lack of access is commonly cited as one of the largest barriers to fishing participation; and therefore, providing and enhancing fishing and boating access is essential for the Department. The public consistently ranks "providing access" as the second highest management priority. While the primary focus of this program is access for fishing and boating, hunters and trappers as well as other outdoor recreationists also benefit. More than 350 fishing and boating access sites ranging from very simple (a small parking area for walk-in fishing) to highly complex (Department-built dams and reservoirs surrounded by camping facilities and including boat ramps and boarding docks) sites are managed by the Department. Site management includes restroom cleaning, road and parking lot grading, fencing, vegetation management, dam maintenance, litter pick-up, painting, replacing signs, and general repair. Reconstruction of site infrastructure occurs annually at several sites and often requires design work by engineers, permitting, contracting, and construction oversight. The Department continues to look to expand the program by securing property and agreements for new site development recognizing limited staff and budgetary constraints must be considered when new sites are considered. New sites are added in a prioritized fashion only where access is insufficient.

The Department does not have authority to implement a fee to utilize fishing or boating access sites. Annual funding is approximately $2.6 million or about 5% of the overall fisheries budget. Most program funding originates from the Sport Fish Restoration Program administered by the USFWS. The Department is required to spend 15% of these funds on boating access projects. The Department allocates five dollars from each fishing license for construction, repair, or rehabilitation of fishing lakes and reservoirs and to provide fishing access. The Salmon and Steelhead set-aside fund is 50% of each steelhead and salmon permit fee to acquire, maintain, and improve access for steelhead and salmon fishing and other anadromous management priorities. Staff also secure grant funds opportunistically. To utilize funds more effectively, the Department seeks and builds partnerships with local, state, federal, or private entities with similar objectives.

Idaho has experienced an increase in outdoor recreation associated with the pandemic and human population growth. While getting more people participating in fishing and boating is a goal, there have been some negative outcomes of the increased use. Most notable are increases in littering, vandalism, and general misuse of fishing and boating access sites. The use of sites by recreationists other than anglers, hunters, or trappers has challenged the traditional user-pay, user-benefit model such that anglers, hunters, and trappers are subsidizing other forms of recreation.

Some site management challenges are not associated with increased recreational activity but still displace anglers and boaters. Sites are more frequently being used for temporary housing which require enforcement eviction actions for violations to posted camping limits. Some access areas have been converted to "Day Use Only" to address the temporary housing issue. Access to private irrigation reservoirs which support considerable recreational angling opportunities in southern Idaho is also an issue of emerging importance. Concerns regarding Quagga Mussels *Dreissena bugensis* or other aquatic invasive species (AIS) have led to increased engagement from the Department working with irrigation companies on strategies to continue to provide access while minimizing risk of AIS. Straight forward solutions to these challenges are not immediately available, but the Department will work to minimize effects to fishing and boating access.

During this planning period, emphasis will be put on assessing the condition of all existing sites, prioritizing improvement projects statewide, determining areas for new access, and developing strategies to mitigate our largest operation and maintenance challenges. Upon completion of this assessment, the Department will update the fishing and boating access plan.

Special Management Issues

Fish Classification

The Commission is authorized under Idaho Statute (36-104(b) to adopt rules concerning the taking of wildlife species (including fishes). In addition, the Commission is authorized under Idaho Statute (36-201) to classify fish and does so within categories including Game Fish, Protected nongame species, and unprotected wildlife. Classifying fish within categories allows for more efficient season setting, enforcement, and rules development. For instance, seasons, limits, and rules may be very permissive for unprotected wildlife, while very restrictive for protected nongame species. Classification of fish species is codified in Idaho Administrative Code (13.01.06). The Department will continue to review and recommend changes to these species classifications as information warrants.

Undesired Aquatic Species Prevention and Control

In Idaho, Aquatic Invasive Species (AIS) are a classification of organisms, including fish, plant, and invertebrates, that are a significant threat to native and recreationally important fish populations, aquatic habitat, and the economy of Idaho. The classification and management of AIS is codified in Administrative Rule and Idaho State Department of Agriculture (ISDA) leads AIS prevention and control activities. The Department assists ISDA and others by providing technical information, logistical support with field activities, and partnering on outreach, education, and enforcement efforts. As of 2024, X species of fish are classified as AIS.

Some fish species may not be classified as invasive but may be incompatible or undesirable in specific waters where they conflict with fishery management or conservation goals; it is important to note incompatibility is very context and location specific as an incompatible or undesirable species in one location may management priority in others (see Fisheries Management Strategies p.76). The Department will use incompatible management to describe situations where the presence of a species will have negative effects and without Department intervention would lead to population collapse of a desired fishery or native fish population. Undesirable will refer to species that are known to have negative effects that will not likely lead to substantial population reductions or collapse or that may not be practically addressed by the Department with this planning period.

Preventing introduction, detecting and monitoring colonization or establishment, and removing undesirable aquatic species (including both native and non-native species) are primary focal areas of fishery management. Concern over the introduction of new fish species and the illegal transport of fish species to waterbodies has increased throughout Idaho and nationally. The Department completes the American Fisheries Society guidelines for “Introductions of Aquatic Species” prior to any new species introduction. It is increasingly easy for the public to purchase live fish and have them shipped to Idaho. All fish and wildlife, except fish obtained from a Commercial Fish Facility or ornamental and tropical aquarium fish species, require an import permit from the Department before being brought into Idaho. A live fish transportation permit is required to transport live fish within Idaho. The Department will work independently and with ISDA to inform the public of the importation requirements for fish species and will work with other state and federal agencies in controlling undesirable importations and illegal introductions of fish species. Monitoring and preventing the introduction of AIS or undesirable species are the most efficient and economical methods of controlling these species.

In Idaho the ISDA designates 16 aquatic plants and 11 aquatic invertebrate species as AIS. Non-fish species of immediate concern include the plant, Eurasian water milfoil, the bivalves, Zebra and Quagga mussels, and the snail, New Zealand mud snail. These species are highly invasive in suitable aquatic habitats and can quickly become a nuisance. Eurasian water milfoil is widespread in Idaho and can completely choke off a waterway; prevent boating, swimming, and fishing, and alter habitat for native species. Zebra/Quagga mussels and New Zealand mud snails form dense colonies that can clog water intakes and compete with native bivalve populations. Zebra mussels have not been found in Idaho. Quagga mussels were detected by ISDA in the Snake River near Twin Falls in September 2023. The ISDA treated the Snake River with a molluscicide to kill both larval and adult Quagga mussels, ongoing ISDA surveillance sampling will determine if the treatment was successful and detect any new populations. The treatment caused substantial fish mortality, which was an unfortunate but necessary consequence to minimize expansion of Quagga Mussels to Idaho waters.

Hitchhiking on boats, trailers, boat docks, and other equipment used in contaminated waters is thought to be the primary means for Quagga and Zebra mussel introduction. Hard structures provide a surface for adult mussels to attach, after which they may be unknowingly transported. Public education and boat check stations are the primary defense against introduction. The Department will work with ISDA to increase public and agency awareness AIS and how to clean boats, trailers, waders and other aquatic equipment. The Department will work to ensure our own fisheries personnel are trained to help prevent the movement of AIS while working throughout the state.

For those incompatible or undesirable species already established, direct control may be used to improve fishing, protect native species, or eliminate undesirable species so desired species can be reintroduced. The Department has direct control projects in specific waters on: Brook Trout, Rainbow Trout, Lake Trout, Northern Pikeminnow, Suckers, Common Carp, Bullhead, Walleye, and various aquarium species. Methods of control can be broken down into biological, fish toxicants, and physical.

Biological

The Department is at the forefront of development and assessment of experimental techniques to use YY fish technologies that serve to shift undesirable populations to all male leading to collapse. The Department uses sterile predators such as tiger muskie and tiger trout in some waters to control non-native fish. Both species have shown the ability to suppress highly abundant prey species or extirpate undesirable species under the correct conditions while improving fishing opportunities.

Fish Toxicants

The Department will consider the use of fish toxicants to remove undesirable aquatic organisms under the guidance of "Planning and Standard Operating Procedures for the Use of Rotenone in fish Management" (Finlayson et al. 2018) and the IDEQ nonpoint source discharge elimination permit. The Department will involve the public in our decision-making process and consult with local officials as well as other agencies as necessary. The Department will adhere to a guiding principle of the 2010 revision to the joint Memorandum of Understanding between the U.S. Forest Service and Department whereas the Department will "Notify and coordinate with the U.S. Forest Service with sufficient lead time on any piscicide application proposal on NFS lands in Idaho in recognition that under extraordinary circumstances NEPA or other authorizations may be necessary."

Physical

When physical removal is deemed necessary to meet fisheries management objectives the use of gill nets, trap nets, electrofishing, dewatering, electric and physical barriers, and angling may be used to remove and suppress native, non-native or undesirable species or incompatible species. The Department will also utilize anglers to help suppress native, non-native and undesirable species when warranted and socially acceptable and may incentive harvest if warranted to meet fishery management objectives.

The Commission possesses statutory authority to manage undesirable species (Idaho Code 36-903); however, it is not practical or preferable to control undesirable species in all locations. Instead, the Department will focus on control of undesirable species in priority waters, where control may be successful, and that aligns with the specific fisheries management and conservation objectives for the waters affected.

Endangered Species Act

The Endangered Species Act (ESA) was passed by Congress in 1973 to protect animal and plant species from extinction. An endangered species is any species in danger of extinction throughout all or a significant portion of its range, whereas a threatened species is any species likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Recovery of a species to a level safe from extinction is the key goal of the act. Typically, restoration actions are guided by a recovery plan, and the tools of recovery may range from captive breeding to habitat enhancement or land acquisition. Critical habitat is identified for listed species to provide special protection for key spawning and rearing areas.

Idaho has six species that are listed as threatened or endangered under the ESA. Snake River Sockeye Salmon was listed as endangered in 1991. Naturally-produced Snake River spring, summer, and fall Chinook Salmon, excluding spring Chinook Salmon in the Clearwater River, were listed as threatened in 1992 and the listing includes some hatchery stocks. The Kootenai River White Sturgeon was listed as endangered in 1994. Naturally-produced Snake River steelhead trout were listed as threatened in 1997. Bull Trout were listed as a threatened species throughout its entire range in 1999. NOAA Fisheries (National Marine Fisheries Service) oversees management of listed anadromous species such as salmon and steelhead. Following the listing of the species, recovery plans were finalized for Snake River Sockeye Salmon in 2015 (NOAA 2015a), Snake River fall Chinook Salmon in 2017 (NOAA 2017b) and Snake River steelhead and spring/summer Chinook Salmon in 2017 (NOAA 2017a). The USFWS is legally responsible for the management of listed resident species such as Bull Trout and Kootenai River White Sturgeon. These listings have been re-affirmed by multiple five-year status reviews and Recovery Plans have been written for Bull Trout (USFWS 2015) and Kootenai River White Sturgeon (USFWS 2019). A Species Status Assessment for Bull Trout is scheduled for completion in 2024. Recovery plans are guidance documents developed by state, tribal, and federal representatives that identify recovery strategies and actions to address limiting factors for listed species.

In 2000, the OSC was created by the Idaho Legislature within the Office of the Governor to provide coordination, cooperation, and consultation among various state and federal agencies with ESA responsibilities in Idaho. The core functions of the OSC are to coordinate federal ESA programs with state agencies; solicit, provide and delegate funding for ESA programs; negotiate agreements with federal agencies concerning endangered species; serve as the state's "one-voice" on ESA policy; provide a mechanism for Idaho citizens to voice ESA concerns; and facilitate collaboration between state, federal, tribal and private stakeholders.

The ESA prohibits the taking of listed species unless authorized by the appropriate federal agency. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or to attempt to engage in any such conduct. The Department's management and research activities for listed fish and other fish species that coexist with listed fishes, qualify as take. The Department operates under several federally authorized ESA permits to conduct tasks when its actions may directly or indirectly take listed fish.

The ESA listings add complexity to state fisheries management. The administrative requirements to propose and authorize activities are time and personnel intensive. Once permits are approved there are considerable reporting requirements annually. Application for permits and reporting requirements are in addition to existing fishery management responsibilities. The substantial data collection and analysis, management, and administrative activities associated with federally listed fishes are supported primarily with federal contracts because federal hydropower development has been a major factor in the decline of all of Idaho's current federally listed anadromous fishes as well as Kootenai River sturgeon.

Monitoring, propagation, and management of ESA listed fishes is intended to improve species status to the point that down- or de-listing is possible. Information and education about the status and presence of listed species has also been emphasized. Information collected by the Department monitoring has been essential to support management decisions and assess population status. Changes in the Department's management of non-listed species are sometimes required to improve the status of listed fishes. Bull Trout status in Lake Pend Oreille is being improved by reducing predation and improving spawning and rearing habitat. Brook Trout are no longer stocked in areas with Bull Trout to reduce genetic introgression and competition.

The Department will work with the OSC and federal managers to develop sound, biological approaches to delisting and recovery that address key factors of decline. We will ensure that programs do not jeopardize listed fishes, but the Department will not support needless constraints imposed on recreational fisheries without defensible biological information.

State Wildlife Action Plan

State Wildlife Grants and State Wildlife Action Plans were established by Congress to provide funds to the States to develop and implement wildlife management and habitat restoration for the "most critical wildlife needs." These funds are to be used on Species of Greatest Conservation Need (SGCN) and to address the life history and habitat requirements of such species to preclude federal ESA listing. To select Idaho SGCN, the Department included species (or habitats) that are experiencing known threats that without intervention are likely to continue to decline or to become increasingly vulnerable. In 2023, the Department developed an updated list of SGCN. This list is comprised of regularly occurring animal species native to Idaho most in need of conservation action (IDFG 2024b). In some cases, the criteria used for resulted in changes in SGCN status (either tier or exclusion) from the 2015 plan. Importantly, omission of native taxa (such as Westslope Cutthroat Trout) from the SGCN list is not reflective of lack of conservation commitment. Changes reflect new information about (or change in) distribution and abundance, existing species-specific conservation, and management plans with access to a wider range of funding mechanisms for conservation actions, or a combination of factors. The complete State Wildlife Action Plan for Idaho can be found on the Department website at http://idfg.idaho.gov/swap. The Plan is considered a living document and will be updated as new information becomes available. The current list of Idaho fishes considered SGCN is provided in Table 2.1 of the State Wildlife Action Plan (IDFG 2024b) and Appendix 1. In addition, a list of Species of Greatest Information Need (SGIN) was developed. SGIN are potentially at-risk species for which scientific knowledge and expert understanding are lacking. The listing of SGCN and SGIN will the Department prioritize fish conservation and research efforts to avoid ESA listing and maintain state authority.

Other Aquatic Species

Aquatic animals that may affect fisheries management include amphibians, mollusks, crustaceans, and insects. Aquatic mammals and birds that may affect fish management are not considered in this plan.

One amphibian, the Bullfrog (*Rana catesbiana*), is classified as a game fish for management purposes. Management consists of restricting harvest to the same season as other game fish in waters where Bullfrog occur. Scientists specializing in amphibians are concerned about apparent declines in native amphibian abundance and the effect non-native amphibians such as the Bullfrog may have on native species. The Department only administers the sport harvest of Bullfrog. Bullfrog are classified as an Invasive Species with ISDA administering rules for possession, cultivation, importation, shipping, or transportation. During this planning period the Department will consider reclassifying Bullfrog as unprotected nongame to better align with ISDA, and to provide more flexibility.

Crayfish are crustaceans and for management purposes are also classified as game fish and are subject to sport and commercial harvest regulations. All three native crayfish species in Idaho are members of the genus *Pacifastacus.* Management consists of restricting harvest to the same season as other game fish in waters where they occur for sport and commercial harvest and regulating types of gear used. Non-native crayfish species (e.g., virile crayfish) can cause potential negative impacts on native species and potential problems associated with burrowing species on irrigation dikes. Several non-native crayfish species are classified as AIS.

Other amphibians, crustaceans, aquatic insects, and mollusks provide forage for game fish, are used by anglers for bait, or are of scientific or aesthetic value. The Department has developed conservation plans for the Columbia Spotted frog and the Coeur d'Alene Salamander and present populations will be monitored while conducting routine fish surveys.

Special Permitted Uses of Fish

The Department is required by state statute or rule to regulate several uses of fish outside the normal scope of recreational fisheries management. These requirements were developed to ensure that special uses do not detract from common public uses or lead to unintended consequences.

Private Fish Ponds

Private landowners or managers commonly have an interest in establishing ponds on property they own or manage. Ponds have become especially popular in residential subdivisions with a noticeable uptick in development if rapidly growing areas. While pond development isn't under the authority of the Department, the introduction of fish species is. Public introduction of fish species has several associated risks. The Department will continue to administer a permitting and inspection process to minimize risk to public resources by ensuring that incompatible species are not introduced to new areas or drainages, to avoid the introduction of diseased or genetically incompatible fish, and to minimize the possibility that pond introduced fish escape into public waters.

With the proliferation of private fish pond construction across the state, it is becoming increasingly challenging to administer the process. New pond owners are frequently unaware of the permitting requirements. The Department will work with the private fish aquaculture industry, local governments, and the ISDA (which licenses private hatcheries within Idaho), to increase awareness of private fish pond and live fish transport permit requirements, procedures, and the risks of non-native species to public resources. There has been an increase in ponds developed without water rights or on public waterways without authorization. In these instances, the Department will notify and cooperate with the appropriate enforcement or regulatory agencies.

Commercial Fisheries

Idaho statute designates the Commission (Idaho Code 36-802) as the authority for managing commercial fisheries and a permitting process has been established. Applications for commercial fishing are reviewed by staff to assess possible effects to important fisheries or conflicts with other recreational users. If effects are deemed inconsequential, applicants purchase a commercial fishing license and gear tags and report harvest monthly. Commercial fishing has been primarily limited to unprotected non-game fish and crayfish. Commercial fishing for freshwater fish is in decline nationally and in Idaho and recently only a handful of permits are issued annually, primarily for crayfish. The effects of commercial crayfish harvest have not been evaluated as harvest has been on large water bodies and regulations include a minimum size limit and mandatory release of females bearing young.

Fishing Tournaments

Fishing contests, tournaments, and derbies provide a competitive atmosphere enjoyed by some anglers. About 200-225 tournaments are hosted annually in Idaho, with the majority targeting bass. To ensure fishing contests, tournaments, and derbies do not affect fish populations and help reduce angler conflict, the Department administers a tournament permit system. Applications are reviewed by regional staff for consistency with Idaho rules, biological concerns on targeted fish, compatibility with fisheries management direction and, potential for conflict with other recreational users and other tournament participants. Permit exemptions and additional conditions may be required. Mandatory harvest conditions will apply for all contests targeting Northern Pike and Walleye in waters where they were illegally introduced. Mandatory harvest of weigh-in fish may also be required for other species in water bodies that have illegally introduced or undesirable fish species.

Typically, the amount of fishing effort from tournament participants is minimal compared to total fishing effort. Most assessments of tournament induced mortality indicate little concern, but tournaments held during warm water periods may lead to higher-than-average mortality of fish. Most conflict associated with tournaments is related to competing interest for preferred dates and waters from different tournaments. Conflict may occur when a limited amount of vehicle-and-trailer parking at boat ramps hampers access for non-tournament anglers. Angler opinion surveys indicate that anglers have mixed or ambivalent opinions about tournaments depending on the species targeted and location. Anglers do not oppose tournaments for bass, but are less supportive of tournaments for native trout, salmon, or steelhead especially in remote or wilderness areas. The Department will continue to take a balanced approach to regulating tournaments to ensure that the preferences of tournament and non-tournament anglers are met.

Outfitting and Guiding

In Idaho, professional licensed outfitters and guides provide an important function to a segment of the resident and non-resident angling public. The Department and the Idaho Outfitters and Guides Licensing Board (IOGLB) cooperate under a Memorandum of Understanding that clearly defines each entity’s role and responsibility to the public as it relates to fish and wildlife management and opportunities to utilize state fish and wildlife resources. It is the responsibility of The Department to provide science-based information to the IOGLB for decision-making purposes on marketing natural resource related activities. In turn, IOGLB agrees to actively seek input from the Department on changes in outfitter operations or proposals to develop new fish and wildlife-based commercial opportunities.

Other Statewide Fisheries Activities

During this planning period, the Fisheries Bureau will undertake or provide support for a number of other key activities that fall outside managing fish, habitat, or anglers. Database management and development continues to be an important function coordinated by headquarters staff with assistance from the regions, research, hatcheries, and federal partners. The Idaho Fish and Wildlife Information System (IFWIS) is the infrastructure developed by the Department to support the various databases. Existing databases managed as part of IFWIS include 1) Lakes and Streams Database, 2) Juvenile Trapping, 3) Spawning Ground Survey, 4) StreamNet, 5) Genetics, 6) Pathology, and 7) Hatchery production and stocking. The Department will continue to work to improve data storage tools to facilitate conservation efforts.

Angler Engagement

Angler and Aquatic Education

The Department’s Aquatic Education program promotes participation in recreational fishing by working to recruit and retain anglers and seeks to increase knowledge about the value of Idaho’s aquatic habitats. The Department has identified several overlapping components of Aquatic Education that serve to meet these goals: angler recruitment, retention, and reactivation (3R), as well as fishing and conservation education. Despite national trends showing fishing participation is declining, fishing license sales in Idaho have remained relatively stable with a slight decrease in resident and slight increase in non-resident anglers during the last twenty years. However, the percentage of Idahoans fishing has not kept pace with population growth. This may be particularly relevant to Idaho, where a large part of Idaho's growth comes from an influx of retirees, generally of an age at which fishing participation declines. Declining participation could potentially decrease social support and funding for the Department's conservation efforts.

Angler recruitment and retention efforts involve a variety of components aimed at increasing participation in fishing. These include both marketing efforts and direct outreach events. Most efforts are intended to encourage anglers to buy licenses more consistently and reduce "churn" rates. The Department's website and social media presence are central to this effort. "Learn to Fish" information on basic fishing set-ups as well as "how to" videos on a variety of angling topics such as cleaning fish and fishing for kokanee are provided here. The site will continue to expand to meet the needs of new anglers and encourage participation in fishing. Fishing education efforts include fishing clinics, posting stocking reports, Free Fishing Day events, the "Take Me Fishing" trailers, rod loaner programs, Family Fishing Waters brochures, and seminars at local tackle vendors. These efforts give anglers the skills, equipment, or information they need to have successful fishing experiences. Future efforts will include adding conservation messages to all classes and publications to encourage all anglers to enjoy and protect aquatic resources.

Conservation education efforts focus on increasing public awareness of Idaho's aquatic resources and issues affecting these resources. Department employees have identified four critical topics on which education efforts should focus: riparian habitat, water quality, water quantity, and angler ethics. Specific stewardship programs are occurring in many regions. The Trout in the Classroom program currently has 120 participating aquariums, some with multiple classes. This program is currently at capacity and cannot be expanded without additional resources. Approximately half of the classrooms participating in Trout in the Classroom include a fishing component during their curriculum. Additional outreach includes teacher education trunks and Department participation in various local fairs and water-related events.

Hatcheries provide an additional opportunity for the public to view and learn about fish and aquatic systems. Many hatcheries have informational kiosks and offer tours to interested groups. The MK Nature Center in Boise, the Waterlife Discovery Center in Sandpoint, and the Edson Fichter Pond in Pocatello provide educational programing and events on Idaho fish species and aquatic habitats to over 100,000 visitors and students annually. Stewardship messages will also be developed for the "Take Me Fishing" trailers so beginning anglers can learn about their important role in taking care of the aquatic habitats and fish they enjoy.

Law Enforcement and Public Outreach

A stated goal of the Department's Strategic Plan is to "sustain Idaho's fish and wildlife and the habitats upon which they depend." Enforcing fishing rules is an identified strategy to maintain or improve fish populations to meet the demand for fishing.

Idaho's conservation officers spend approximately 50% of their time enforcing fish and game laws and rules through routine patrols and more focused efforts where sensitive fish species occur or where angler awareness and compliance with rules may be poor. Conservation Officers annually contact over 58,000 licensed hunters and anglers, issuing an average of 3,700 citations and warnings. Additionally, contacts with anglers and hunters provide the conservation officer opportunities to interact, communicate, and educate the public.

Enforcement activities to address specific fisheries issues are prioritized at the regional level by enforcement and fishery personnel. Focused patrols allow individual officers to emphasize activities on federally listed species, species or populations at risk, or popular fisheries when fish are vulnerable. Where needed, enforcement staff may also coordinate efforts of multiple officers and other personnel to address important priorities. In addition to enforcement, Conservation Officers often play a critical role in public outreach and education, raising awareness of fisheries resources and fishing rules.

State Record Fish Program

The goal of the Idaho State Record Fish program is to document exceptional catches of Idaho's game and nongame fish. Additionally, this program is intended to generate excitement and interest about sport fishing opportunities and encourage angling participation by publicly recognizing exceptional fish and the anglers who catch them. The Department issues Idaho State Record Fish awards for both game species and nongame species, excluding Bullfrog and crayfish. The Department will recognize both Certified Weight Records and Catch-and-Release Records. The Department began formally recognizing Certified Weight Records in 1941, though some records are much older. The Catch-and-Release record program began in 2016 as a way to stimulate additional interest and participation, and in recognition that nowadays many anglers prefer not to harvest fish. Since that time, the program has become a huge success, issuing more than 130 Catch-and-Release records. News releases associated with record catches have garnered national media attention and have been immensely popular with anglers.

Having gained experience administering the newly launched Catch-and-Release State Record program, the Department was concerned about the level of resources needed to support an Idaho-based "trout slam" program. Instead, the Department worked closely with the Western Native Trout Initiative in developing the Western Native Trout Challenge. This challenge promotes native trout awareness, and the proceeds from registration fees are spent on conservation projects benefiting native trout. The Department felt it best to support the initial success of this much larger program that included Idaho, as well 11 other western states. The Western Native Trout Challenge launched in 2019 and is quickly gaining popularity. Anglers can fish for up to 18 native salmonids, needing to catch a minimum of six species across four states to qualify for the basic of three available achievement levels. Eligible species in Idaho include Westslope, Yellowstone, and Bonneville Cutthroat trout, as well as Redband Trout and Bull Trout.

PART 2 – FISHERY MANAGEMENT PLANS BY DRAINAGE

Overview

The second part of the Statewide Fisheries Management plan is organized by and focuses on thirty-five drainages individually (Figure 17). Each drainage section consists of three parts including an overview, a listing of drainage-wide objectives and strategies, and a table that details management direction for important individual waters within the drainage. The overview provides a description of drainage attributes, primary land uses, conservation concerns in the context of historical and current fisheries, and future fisheries direction. Next, Objectives and Strategies are detailed that will serve to identify priority fisheries and activities for this six-year management period. Lastly, management direction provides more specific guidance and direction for species of interest in important fisheries.

Management Direction

Management Direction is presented in a hierarchal manner using Primary and Secondary Management Strategies as defined on this and the following page. Management Direction is set only for waters and species of substantial management interest, that is species that represent an inherent conservation value or provide substantial recreational fishing opportunity. For each species of interest, one of four primary management strategies will be prescribed. In addition, a secondary management strategy may be prescribed. Secondary management strategies often further prescribe age, size, or harvest objectives for species.

Fishery Management Strategies

Primary Management Strategies

Native – The Native fisheries management strategy focuses on providing sustainable fisheries for native species while ensuring they are adequately conserved from population and genetic perspectives. Preserving or restoring high quality habitat, maintaining natural reproduction, and minimizing the effects of non-natives are central to sustaining native fish populations. Fishing-related mortality will be managed to ensure that fishing doesn't contribute to population declines or prevent population increases. Management actions to benefit native species may include habitat restoration, improving connectivity, as well as efforts to reduce impacts from non-natives (targeted removals, piscicide treatments, barrier installation, etc.)

Wild/natural – The Wild/natural fisheries management strategy applies to naturally reproducing fish that have been introduced or have become genetically introgressed to a significant extent from crossbreeding with hatchery or non-native fishes. The Wild/natural strategy focuses on promoting the natural spawning and rearing potential of fish populations. This strategy may be applied to wild trout, some anadromous salmon/steelhead fisheries, or bass or panfish populations, among others. Management strategies will focus on maintaining or improving habitat conditions to ensure natural production is maintained or improved. Fishing mortality will be managed to ensure adequate reproductive potential and to achieve prescribed secondary management strategies.

Hatchery-supported – The Hatchery-supported management strategy focuses on improving fisheries where habitat and natural reproduction are insufficient to support robust native or wild populations. With hatchery-supported management, hatchery produced fish are stocked to create or augment fishing opportunities. A variety of hatchery-produced fish species may be used to meet specific fishery objectives. Depending on fisheries characters managers may use differing approaches such as “put-and-take” or “put-and-grow”. Management strategies will focus on providing a diversity of opportunities as well as ensuring that hatchery resources are used efficiently and to the optimal benefit of anglers.

Incompatible – The incompatible management strategy may be applied under circumstances where introduced non-native species are deemed detrimental to conservation efforts or substantially hamper efforts to provide high-quality recreational fisheries. This strategy may be prescribed to bass, Northern Pike, Walleye, or other species where they have been introduced (illegally or otherwise) or have become established and prey on game fish or non-game fish of conservation or recreational interest. Also, Incompatible may be applied to non-native salmonids where they displace, compete with, or interbreed with priority native species. This strategy will be prescribed based on conservation and management priorities, probability of success, and a variety of other factors. The focus will be to increase the mortality of these species and decrease abundance through a variety of management actions including, but not limited to, direct removal, increasing or incentivizing fishing mortality, or application of chemical piscicides.

Secondary Management Strategies

Conservation – The Conservation management strategy will be applied in rare circumstance to certain native fish populations that are of such high conservation value that their loss or decline would negatively affect the status or likelihood of persistence of the respective species. Conservation populations will be given the highest priority in management decisions. Management strategies will focus on population monitoring and identifying and addressing limiting factors. Focus will also include work to ensure that habitat conditions are maintained or improved. Fishing-related mortality will be managed cautiously to ensure that fishing doesn’t contribute to population declines or prevent population increases. Similarly, introduction or stocking of other species will be approached cautiously.

Anadromous – The Anadromous management strategy covers fisheries for ocean-going steelhead and salmon. Under anadromous management, “Native” refers to anadromous fish, produced from populations which have no history or evidence of introgression with hatchery or non-native fish. “Wild/natural” are anadromous fish produced from natural spawning but may be the offspring of either hatchery or wild parents and or introduced stocks. Harvest opportunity under anadromous management is focused primarily on hatchery fish while ensuring fishing impacts on ESA listed fish are within permitted levels. Where ESA permitting allows or where unlisted species occur, fisheries can target wild/natural fish.

General – The General management strategy will be applied to all remaining fisheries for which the water or species are not assigned to any other secondary management strategies. When the General management strategy is assigned, the Primary strategy designation directs management emphasis.

Yield – The Yield management strategy focuses on providing high, yet sustainable, levels of harvest opportunity with less focus on size or age structure. Species such as crappie, Yellow Perch, Bluegill, and catfish tend to be abundant, mature at relatively young ages, and reproduce and grow at moderate to high rates.

Quality – The Quality management strategy intends to provide an intermediate option between Trophy and Yield to provide quality-sized individuals. This strategy typically limits harvest opportunity to some extent. Similar to trophy, quality management may only be applied effectively if growth and longevity are at least moderate relative to the species' potential. In some cases, quality management may require reductions in fishing-related mortality. Determination of quality length objectives may be informed by American Fisheries Society standards and historical knowledge of water and species-specific growth potential.

Trophy – Trophy management seeks to promote large size relative to the species' ultimate size potential. Trophy management is typically only effective for waters and species where growth rates are high, mortality is low, and fish are capable of living to ages necessary to reach desired length. In some cases, trophy management may require reductions in fishing-related mortality. Determination of trophy length objectives may be informed by American Fisheries Society standards and historical knowledge of water and species growth potential.

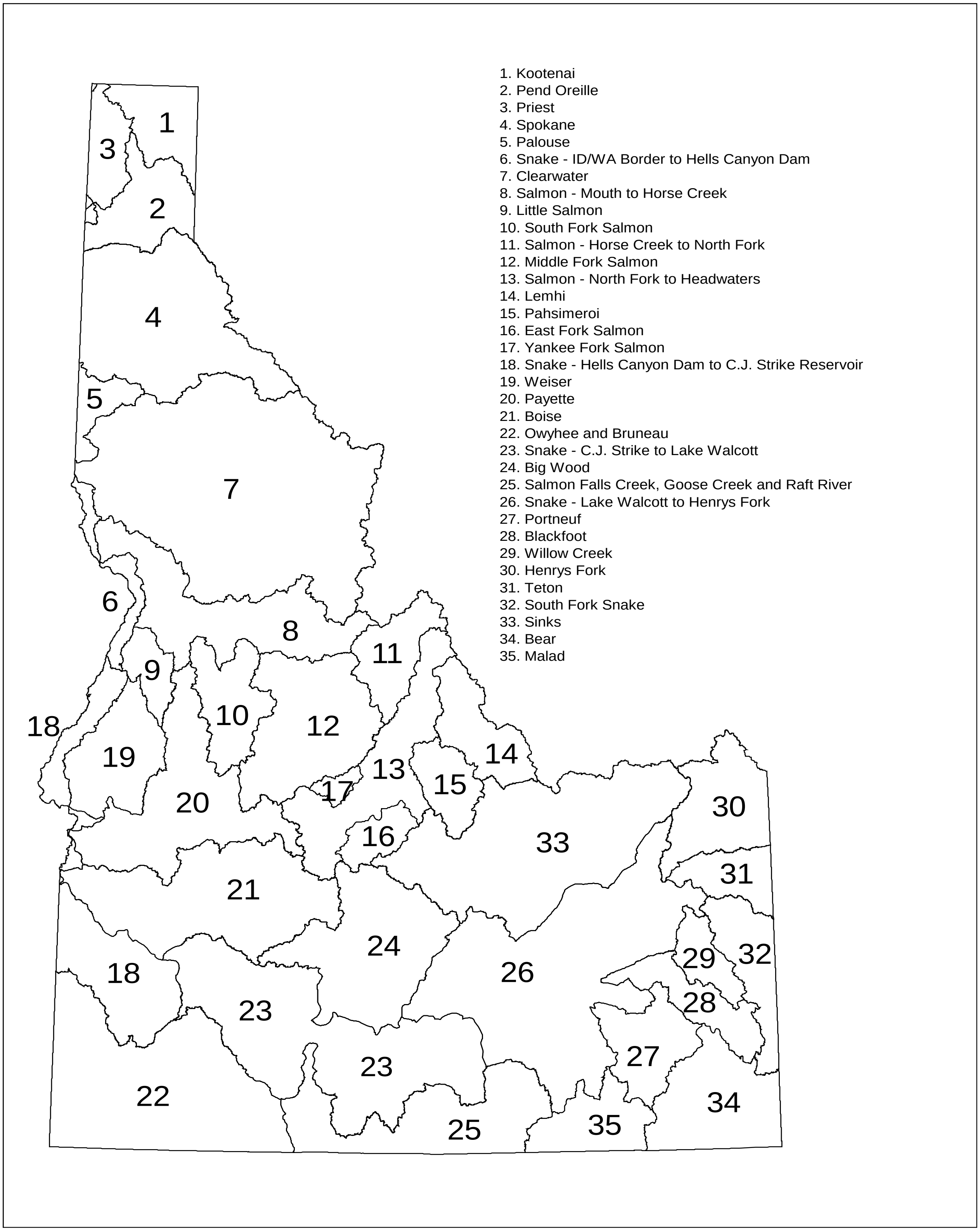
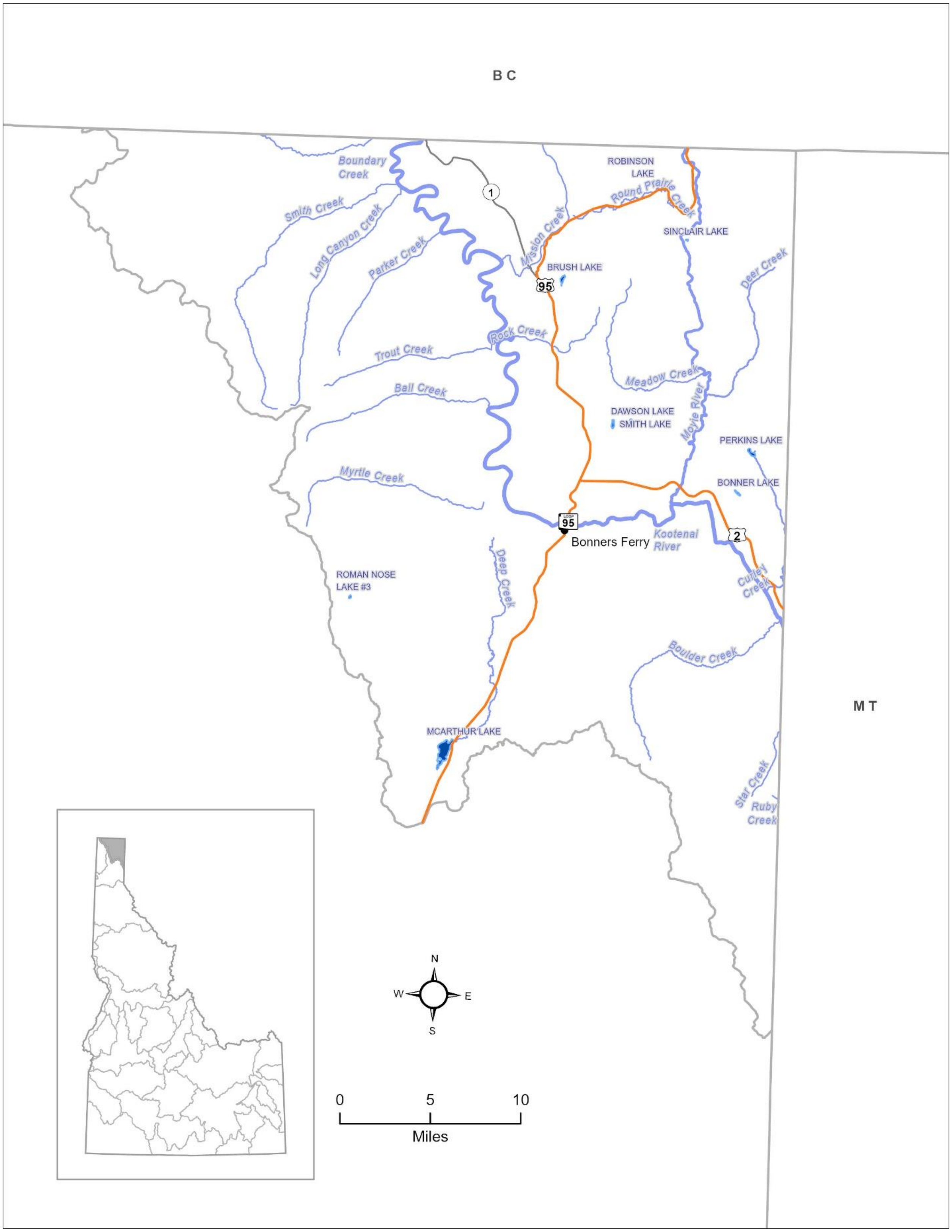


Figure 17. Statewide drainage map for 2025 - 2030 Fisheries Management Plan.

1. **Kootenai River Drainage**



Overview

The Kootenai River is located at the north end of the Idaho Panhandle in Boundary County. It originates in southeastern British Columbia (BC), Canada flows south and west through Montana, northwest through Idaho, then returns to Canada where it flows through Kootenay Lake and joins the Columbia River at Castlegar, BC. At the International border near Porthill, Idaho, it drains approximately 13,700 square miles with an average discharge of 16,100 cubic feet per second (cfs). The 66 miles of Kootenai River in Idaho can be divided into three reaches. The 47-mile section from Porthill to Bonners Ferry (meander reach) is a slow moving, broad, meandering river with pools up to 100 feet deep. A dam at the outlet of Kootenay Lake influences water level in the river as far upstream as Bonners Ferry. The eight miles from Bonners Ferry to the mouth of the Moyie River (braided reach) is faster moving, with an average gradient of three feet per mile, numerous islands and side channels, and gravel/cobble substrates. The 11 miles of river upstream from the confluence with the Moyie River to Montana (canyon reach) is characterized by similar gradient and substrate but is confined by a canyon.

The Kootenai River has been heavily altered by human developments that have caused significant native fish conservation challenges. As a result, restoration of fish populations in the Kootenai River is the primary management focus, particularly for White Sturgeon and Burbot. Restoration actions are accomplished through extensive multi-agency collaboration. This collaborative process involves engagement with the BC Provincial Government, KTOI, MFWP, USFWS, and other agencies to bring together, develop, and implement research and monitoring programs and projects that will lead to self-sustaining fisheries.

The most influential alteration of the Kootenai River is from Libby Dam, which was constructed in Montana in 1972. Its operation for flood control and power production altered the natural seasonal and daily flow and temperature regimes, as well as productivity. Mean flows during spring runoff have declined 50%, and wintertime flows have tripled. Average wintertime water temperatures have increased by about 7°F, resulting in the river remaining virtually ice free. Sediments trapped behind Libby Dam have dramatically reduced turbidity and the availability of important nutrients in the river and lake. In addition to the capture of nutrients behind Libby Dam, a fertilizer plant on the St. Maries River (above Lake Koocanusa in BC) that once discharged phosphorus was closed in the 1970s. The result was a shift from an unnaturally high to an unnaturally low nutrient load. Since 2005, a cooperative nutrient restoration program between the Department and KTOI has added phosphorus near the Idaho/Montana border to restore natural levels of nutrients. The project has resulted in increased primary production, invertebrate abundance, and fish densities. Downstream, nutrients have been added in Kootenay Lake, BC since 1992. This program has positively affected kokanee and Gerrard Rainbow Trout populations in Kootenay Lake.

The Kootenai River supports a genetically distinct population of White Sturgeon. White Sturgeon in the Kootenai River can move freely between Kootenay Lake in British Columbia, Canada, the Kootenai River in Idaho, and upstream as far as Kootenai Falls in Montana. Despite this length of connected river, Kootenai River White Sturgeon are significantly impacted by habitat changes. The White Sturgeon fishery was closed for conservation purposes in 1984 in response to a major population decline. Lack of successful natural reproduction has limited the population as a result of alterations to the natural flow regime, substrate, water temperature, and nutrients following construction of Libby Dam. The Kootenai River White Sturgeon was listed as an Endangered Species in 1994, and the Kootenai River White Sturgeon Recovery Plan (USFWS 2019) currently guides recovery actions in the basin. Recovery actions include conservation aquaculture, flow and temperature management, nutrient addition, public outreach, habitat restoration, and research, monitoring, and evaluation.

To address recovery and fill the demographic and genetic gaps left by the absence of natural reproduction, hatchery-origin White Sturgeon have been spawned from wild broodstock and released into the Kootenai River annually since 1992. Through 2023, the KTOI aquaculture program has released over 320,000 hatchery-origin juvenile White Sturgeon into the Kootenai River basin. In addition, KTOI began releasing early life stages (eggs and larvae) in the spring of 2022. Through 2023, over 950,000 eggs and larvae have been released to assess natural recruitment bottlenecks. An estimated 15,000 hatchery origin juveniles currently occupy the river and the Kootenay Lake delta. There are now concerns that juvenile densities are severely limiting age-1 survival and growth of all age classes in the river. The Department will continue to discuss appropriate release strategies with KTOI, British Columbia Ministry of Water, Land and Resource Stewardship, MFWP, and the USFWS. In addition, discussions will include the possibility of removing juvenile hatchery fish from the Idaho portion of the river to alleviate density dependent growth and survival, including the potential for restoring a recreational fishery. Department monitoring and evaluation data continue to guide and refine implementation of the conservation aquaculture program in an adaptive management framework. The Department will continue to participate in Annual Program Reviews and collaborate with other agencies on restoration efforts.

The Kootenai River supports the only native Burbot population in Idaho. Similar to White Sturgeon, major declines in the Burbot population occurred following construction of Libby Dam. A lack of natural reproduction has limited the Burbot population and is caused by the same alterations to the river environment that influence White Sturgeon. As a result, the Burbot fishery was closed in 1992. Burbot were petitioned for listing in February 2000, but it was determined that listing was not warranted. Subsequently, a Burbot Conservation Strategy was developed in 2005 by stakeholders in the Kootenai Valley, including the Department. The document outlines strategies to recover Burbot through restoration of conditions necessary for natural reproduction and using conservation aquaculture. In recent years, the KTOI, University of Idaho, and the Department have made significant advances in culturing Burbot. As a result, approximately 1.6 million juvenile and 81 million larval Burbot have been released into the Kootenai River and Kootenay Lake, and recapture efforts indicate good survival. Because of this success, the Department reopened a harvest fishery in 2019, providing a unique opportunity for anglers. The fishery currently supports an annual harvest of about 300 Burbot. Abundance continues to increase, indicating that this level of harvest is sustainable. Research is still being conducted to identify factors limiting natural reproduction of Burbot in the Kootenai drainage. To date, only a low level of natural recruitment has been detected. The goal is to restore a self-sustaining population that supports the recreational harvest fishery. The Department will continue to work with KTOI to identify appropriate release strategies for Burbot, identify and address factors limiting natural production, and monitor effects of the re-opened recreational fishery.

Redband Trout are also native to the Kootenai River drainage. They occupy the mainstem Kootenai River and tributaries where low elevation natural barriers do not exist. Hatchery Rainbow Trout have been widely introduced throughout the drainage and have influenced the genetic integrity of Redband Trout populations in the mainstem and some tributaries. However, recent surveys suggest Redband Trout of core (i.e., 0% introgression) to conservation (i.e., ≤10% introgression) level genetic status remain well-represented in tributaries, including Boundary Creek, Callahan Creek, Deep Creek, and Long Canyon Creek. The Department worked collaboratively with other agencies to develop a Redband Trout Conservation Strategy document in 2016, and will implement conservation measures identified in this document, where possible.

Other native salmonids in the Kootenai River drainage include Westslope Cutthroat Trout, Bull Trout, kokanee, and Mountain Whitefish. Westslope cutthroat trout occur primarily in isolated reaches of tributaries above natural barriers. Few Bull Trout occur in the Idaho portion of the drainage, with most spawning and rearing habitat located in Montana. Kokanee are currently rare upstream of Kootenay Lake; however, some spawning has historically occurred in Idaho portions of the drainage, including several of the west-side tributaries. Kokanee also enter the river periodically following entrainment through Libby Dam (Lake Koocanusa). Kokanee likely serve an important ecological role by transporting nutrients to tributaries and as a prey resource for piscivores, including White Sturgeon, Burbot, Redband Trout, and Bull Trout. The Department will explore opportunities to restore or enhance kokanee in the drainage to provide benefits to these and other native fish. Introduced salmonids in the drainage include Brook Trout and Brown Trout, but these species are rare in the mainstem river.

The trout fishery in the Idaho reach of the Kootenai River is characterized by lower densities than upstream reaches. The low densities are believed to be, in part, due to limited natural reproduction. Due to past glaciation, most Kootenai River tributaries are blocked by falls near their mouths which create migration barriers and limit recruitment of trout. Habitat alteration and degradation in the lower reaches of many tributaries has further limited trout production. Man-made obstructions, diversions, and channelization have also completely isolated former trout habitat in some tributaries. The Deep Creek, Boundary Creek, and Callahan Creek drainages are the largest accessible tributaries of the Kootenai River. Migratory Redband Trout from Deep Creek are known to spawn and rear in the tributary, but spend their adult life in Kootenay Lake, B.C. (adfluvial life history). This life history likely occurs to some extent in other tributaries as well. Studies indicate most of the current recruitment of Rainbow Trout in the Kootenai River comes from Montana tributaries. We will explore opportunities to increase natural recruitment through restoration of spawning and rearing habitat in Idaho tributaries.

In addition to limited recruitment, the lack of nutrients in the Kootenai River has likely limited trout production. Since nutrient additions began, catch and biomass of Redband Trout upstream of Bonners Ferry has significantly increased. Fishing regulations were modified in 2002 to address overharvest of mature Redband Trout. Monitoring has shown an increased abundance and improved sizes structure of trout since nutrient addition began. The combined efforts to improve the trout fishery has resulted in increased use of the river by anglers, including outfitter use. Additionally, the Department worked cooperatively with Montana to open a new boating access site on the Kootenai River just east of the Idaho border near Leonia. Access to the canyon reach of the Kootenai is limited and maintaining or increasing access will continue to be a priority.

An emerging concern is selenium contamination from coal mines in the Elk River Valley, BC. Elevated levels of selenium in the Kootenai River and within native fish tissues have been linked to these mines. To date, no consumption advisories have been issued by the Idaho Fish Consumption Advisory Project. However, selenium was found to exceed the U.S. Environmental Protection Agency (EPA) criterion for ovarian tissue in many fish, including most Mountain Whitefish. Further increases in selenium could trigger consumption advisories and may even result in reduced recruitment of native fish. The Department will continue to monitor native fish populations and support sampling efforts of KTOI, US Geological Survey (USGS), IDEQ, and others who monitor selenium levels in Kootenai system.

The Moyie River is the largest tributary of the Kootenai drainage in Idaho but is isolated from the Kootenai River by a natural falls near its mouth. The Moyie River originates at Moyie Lake in BC and flows 58 miles through Canada and 26 miles through Idaho. The Moyie River above Meadow Creek has a moderate gradient with limited complexity and relatively few pools. The river gradient below Meadow Creek is much steeper and more complex. Many of the Idaho tributaries of the Moyie River are disconnected by geologic features near their confluence. Human development also may isolate tributary habitat in some locations (e.g., Meadow Creek). As such, sources of trout recruitment are limited. Most of the trout recruitment for the upper river appears to come from Canadian tributaries. Deer and Meadow Creek likely provide the majority of recruitment in the river below Meadow Creek. Warm summer water temperatures may also act to limit salmonid abundance throughout the river. Although limited, wild trout production supports a trout fishery. Historically, the Moyie River was managed primarily as a put-and-take trout fishery. Concerns about potential pathogen impacts in Canadian waters and poor returns of hatchery-stocked Rainbow Trout resulted in a change to wild trout management in 2000. Surveys in 2016 and 2021 documented low densities of Rainbow Trout and Brook Trout, along with an even lower density of Westslope Cutthroat Trout. Mountain Whitefish are the most abundant game fish in the Moyie River. Angler access in the upper river is limited to several bridge crossings and two Forest Service campgrounds and in the lower river by only a few primitive drive-to access sites. Development of private property along the river has increased dramatically in the past decade.

Human development in the Moyie River corridor impacts fish habitat in the drainage. The city of Bonners Ferry operates the 3.95-megawatt Moyie River Hydropower Project (Project) in the lower river. The existing FERC license for the Project was issued in 1999 and expires in 2029. The Project consists of a 92-foot-high dam that impounds a 540-acre-foot reservoir that operates as run-of-the-river. The dam is located near the natural barrier falls, thus does not impact migrating fish. The Department will assist the City and FERC during relicensing. A natural gas pipeline intersects the river at multiple locations in the upper river. Additional pools were created with rock grade control structures and bank barbs as mitigation for pipeline construction impacts in 1992. In addition, a railway follows the river corridor along a majority of the upper river. A culvert associated with a railway crossing at Meadow Creek is thought to act as a migration barrier for fish.

Eight natural lowland lakes (>5 acres) provide mixed fisheries for trout and warmwater species. Naturalized populations of Largemouth Bass, Black Crappie, Brown Bullhead, Yellow Perch, and Pumpkinseed are present in most lakes. Northern Pike were illegally introduced in Perkins and Bonner lakes prior to 2005 but have not established populations. Channel Catfish, tiger muskie and Bluegill fisheries are established in some lakes. Put-and-take Rainbow Trout are stocked in these lakes to provide salmonid fisheries. Burbot were stocked in Bonner Lake from 2015 to 2017. Some of these fish survived, but had slow growth and stocking was discontinued because of poor fishery performance. At the request of the angling public and a county ordinance, all Kootenai drainage lowland lakes are managed as “electric motors only.”

McArthur Lake Dam impounds the headwaters of the Deep Creek drainage and forms a shallow, warm reservoir that is ideal for waterfowl production. The fishery is limited to primarily warmwater species (mainly Yellow Perch with some Largemouth Bass and Pumpkinseed). The reservoir is periodically drained to manage vegetation and enhance waterfowl production. This may actually enhance Yellow Perch fishing by reducing the population and increasing subsequent growth of the fish that remain. Adfluvial Redband Trout migrate from Kootenay Lake, BC to use tributaries above McArthur Lake Dam for spawning and rearing. A fish ladder on the dam allows access to these tributaries. Warm water from the reservoir results in higher stream temperatures in Deep Creek, which may negatively affect coldwater fishes, such as Redband Trout and Burbot.

Nineteen HMLs in the Selkirk and Purcell ranges are stocked with trout fry on a rotating basis. Stocking densities have been adjusted to maximize fish growth at a given lake elevation. Fry from disease-free hatcheries are used to stock Kootenai drainage mountain lakes to address Canadian fishery management concerns. Only Westslope Cutthroat Trout and sterile Rainbow Trout fry are used to stock HMLs to reduce potential impacts to native fish populations downstream. Westslope

Cutthroat Trout, Rainbow Trout, and Brook Trout are present in most of the stocked lakes, although four lakes are reserved for unique species, such as Grayling and Golden Trout.

Objectives and Strategies

1. Objective: Improve the sport fishery in the Idaho reach of the Kootenai River.

   Strategy: Continue to work with KTOI to evaluate the effects of the nutrient restoration program on the fish assemblage with an emphasis on native salmonids.

   Strategy: Assess catch, catch rates, length frequency and harvest of trout to determine if regulations and nutrient restoration are resulting in increased size and abundance of Rainbow Trout in the Kootenai River fishery.

   Strategy: Determine where trout recruitment can be improved in Idaho tributaries through habitat improvement projects.

   Strategy: Work with government agencies, KTOI, private developers, interested angling groups and local schools to make protection, enhancement and acquisition of fisheries habitat a primary concern in land use decisions.

   Strategy: Following stock assessments, work cooperatively with KTOI to provide adequate numbers of Burbot to the mainstem Kootenai River to support a harvest fishery. Annual monitoring and modeling will provide information to adjust stocking numbers.

   Strategy: Conduct creel surveys or an Angler Science Program to monitor the Burbot fishery in the Kootenai River.

   Strategy: Work towards restoration of a White Sturgeon fishery in the Kootenai River in collaboration with the USFWS, KTOI, and other partners.

2. Objective: Restore natural recruitment of Burbot and White Sturgeon.

   Strategy: Evaluate natural recruitment of White Sturgeon and Burbot in the Kootenai River. Work with partner agencies and water managers to modify flows from Libby Dam to support natural recruitment.

   Strategy: Work with KTOI and other partners to restore critical habitat for White Sturgeon and Burbot.

   Strategy: Monitor and evaluate White Sturgeon and Burbot vital statistics in response to recovery strategies and adjust strategies as needed.

   Strategy: Work with partner agencies to develop and implement conservation aquaculture programs for White Sturgeon and Burbot and identify appropriate release numbers and effective stocking strategies.

   Strategy: Monitor and evaluate early life survival of wild and hatchery origin White Sturgeon and Burbot.

   Strategy: In collaboration with partners, identify and implement management actions that reduce density of hatchery origin juvenile White Sturgeon to improve growth.

3. Objective: Conserve native trout populations in the Kootenai River and tributaries

Strategy: Evaluate life history characteristics of Redband Trout populations and identify opportunities for conservation where necessary.

Strategy: Pursue opportunities to address zones of introgressive hybridization to improve genetic purity of Redband Trout and Westslope Cutthroat Trout.

Strategy: Pursue opportunities to restore or introduce Westslope Cutthroat Trout in isolated stream reaches where non-native fishes currently exist.

4. Objective: Maintain fishing opportunities and the quality of the fishery in the Moyie River.

Strategy: Monitor the species composition, abundance, size structure, growth and mortality of the trout population in the Moyie River and evaluate impacts of harvest on quality of the fishery.

Strategy: Investigate opportunity for developing boat (rafts and drift boats) and walk-in angler access in the upper half of the river where private property limits access. Work with the city of Bonners Ferry on their recreation plan for the Moyie River Hydropower Project as a means to improve public access for anglers.

Strategy: Work with Idaho Department of Water Resources (IDWR) and Idaho Water Resource Board (IWRB) to maintain minimum stream flow water rights in the Moyie River (98-7704)

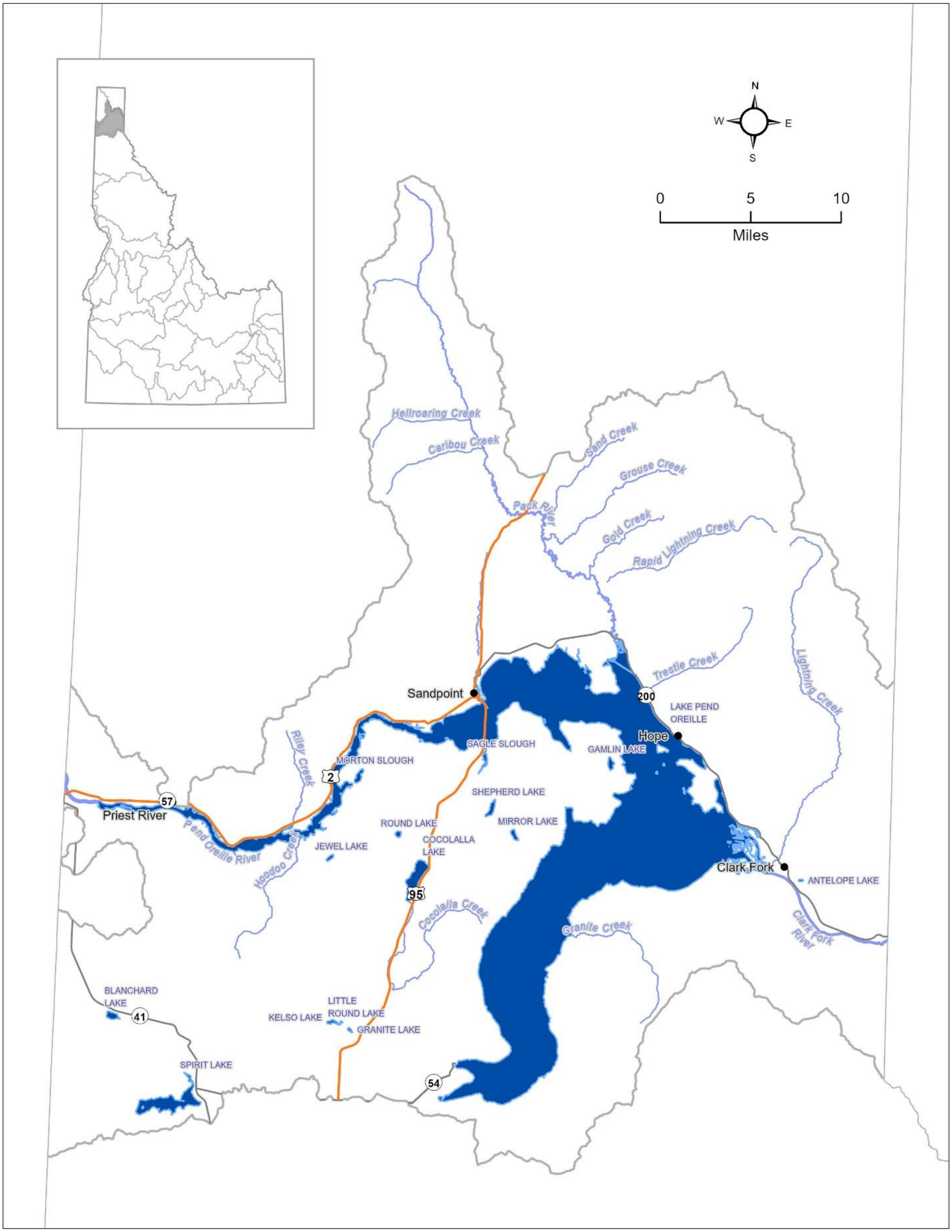
Strategy: Evaluate summer temperature limitations on salmonid populations. Identify coldwater inputs and explore opportunities to conserve coldwater refuge habitat.

Strategy: Work with the city of Bonners Ferry and FERC during Moyie River Hydropower Project relicensing to understand and potentially mitigate for any effects on fisheries and other aquatic resources.

Drainage: Kootenai River				
Waterbody	Species of Interest	Management Strategies		Additional Management Directions
		Primary	Secondary	
Kootenai River from Montana border to Canadian border (66 miles)	Westslope Cutthroat Trout Mountain Whitefish Kokanee Bull Trout Burbot White Sturgeon Redband Trout	Native Native Native	General Conservation Quality	Work toward obtaining more favorable flows and restore productivity to improve habitat conditions for salmonids. Use restrictive regulations to improve the trout fishery. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance. Provide harvest opportunity and monitor influence of harvest on Burbot conservation goals. Identify and implement actions to reduce hatchery origin juvenile White Sturgeon density. Determine critical habitat and improve conditions. Identify factors that are causing depressed populations and implement recommendations from BPA-funded research.
Accessible tributaries to Kootenai River (130 miles)	Redband Trout Westslope Cutthroat Trout Bull Trout Burbot Kokanee Brook Trout	Native Native Native Incompatible	General Conservation General	Enhance trout recruitment for the Kootenai River by identifying critical streams, improving spawning and rearing habitat conditions, managing non-native fish populations where they present risk, and modifying regulations if necessary. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance. Work with B.C. and Kootenai Tribe to enhance kokanee. Maintain seasonal harvest closure in tributary streams for Redband Trout. Determine critical habitat and improve conditions. Work with B.C. to identify and conserve migratory Redband Trout populations.
Inaccessible tributaries to Kootenai River (300 miles	Westslope Cutthroat Trout Brook Trout	Native Incompatible	General	Maintain limited consumptive fishery for small resident trout. Maximize harvest for Brook Trout to provide a consumptive fishery and to reduce competition with Westslope Cutthroat Trout.
Moyie River (25 miles)	Westslope Cutthroat Trout Burbot (downstream of dam) Rainbow Trout Brook Trout	Native Native Wild/natural Incompatible	General Conservation General	Maintain fishery for wild trout with restrictive regulations. Monitor fishery and evaluate the need for more restrictive regulations. Maximize harvest for Brook Trout to provide a consumptive fishery and to reduce competition with Westslope Cutthroat Trout.

Moyie River tributaries (35 miles)	Westslope Cutthroat Trout Rainbow Trout Brook Trout	Native Wild/natural Incompatible	General General	Maintain limited consumptive fishery for small resident trout. Seek ways to increase recruitment from tributary streams and protect coldwater refugia. Maximize Brook Trout harvest to provide a consumptive fishery and to reduce competition with Westslope Cutthroat Trout.
McArthur Lake (200 acres)	Redband Trout Largemouth Bass Panfish Brook Trout	Native Wild/natural Incompatible	Quality Yield	Maintain harvest-oriented fisheries for warmwater/coolwater species. Maintain limited consumptive fishery for trout. Seek ways to increase recruitment from tributary streams.
Smith, Brush, Bonner, and Robinson lakes (160 acres)	Rainbow Trout Channel Catfish Largemouth Bass Panfish Bullhead	Hatchery-supported Wild/natural	Yield	Stock catchable Rainbow Trout to maintain the trout fishery. Stock Channel Catfish in Smith Lake to diversify fishery.
Dawson, Perkins Lake (95 acres)	Tiger Muskie Largemouth Bass Panfish Bullhead Channel Catfish	Hatchery-supported Wild/natural Hatchery-supported	Trophy Yield Yield	Maintain tiger muskie stocking in Dawson Lake to diversify fishery and provide a unique trophy opportunity. Maintain harvest-oriented fisheries for warmwater/coolwater species. Stock Channel Catfish to diversity fishery.
Solomon, Sinclair lakes (13 acres)	Rainbow Trout	Hatchery-supported	Yield	Stock catchable Rainbow Trout to maintain the trout fishery.

2. Pend Oreille River Drainage

3. 

Overview

The Pend Oreille River drains about 24,200 square miles of land in western Montana and the Panhandle of northern Idaho. Most of the 2,133 square miles of the drainage within Idaho lies in Bonner County. Major tributaries of the Pend Oreille River drainage in Idaho include the Clark Fork, Pack, and Priest rivers. Lake Pend Oreille, the largest lake in the drainage, covers 85,960 surface acres with a shoreline length of 111 miles. The glacial lake basin is deep and steep-sided with a maximum depth of 1,152 feet and mean depth of 538 feet. The combined surface area of Lake Pend Oreille and the Pend Oreille River above Albeni Falls Dam is 94,720 acres.

Historical overharvest, logging, farming, residential development, road building, the construction of hydroelectric dams, and introduced non-native species have all taken a toll on native fish populations and habitat. Hydroelectric development began with Milltown Dam in 1907 and Thompson Falls Dam in 1913, isolating much of the drainage to migratory fish from Lake Pend Oreille. Cabinet Gorge Dam was completed near the Idaho/Montana border in 1952, further reducing spawning and rearing habitat for adfluvial species. Downstream, near the Idaho/Washington border, Albeni Falls Dam was completed in 1955, profoundly altering the character of the Pend Oreille River and the lower reaches of the Clark Fork River. In addition, operations of Albeni Falls Dam have altered the seasonal variability in the level of the Pend Oreille River and Lake Pend Oreille. The impacts of Albeni Falls and Cabinet Gorge dams on the Lake Pend Oreille fishery have been a primary focus of fishery mitigation programs funded by Avista and the BPA which will continue in this planning period.

Westslope Cutthroat Trout, Bull Trout, Pygmy Whitefish and Mountain Whitefish are the only salmonids native to the Pend Oreille drainage in Idaho. Native cyprinids (minnows), cottids (sculpin), and catastomids (sucker) round out the mix of native species. Three native sport fish supported fisheries through the 1930s. Westslope Cutthroat Trout were the most frequently caught species, with abundant harvest of 12- to 16-inch fish. Large adfluvial Bull Trout were often targeted for harvest in the lake and tributary streams. Accounts of tributaries with an abundance of spawning Westslope Cutthroat Trout and Bull Trout were common in the late-1800s and into the early-1900s. Similarly, a fisheries survey of the Pend Oreille River in the late-1800s reported an abundance of native Westslope Cutthroat Trout and Bull Trout. Spawning runs of Mountain Whitefish historically supported a significant commercial fishery on Lake Pend Oreille.

In 1889, non-native Lake Whitefish were introduced by the US Fish Commission in several northern lakes. These included Lake Pend Oreille, Coeur D’Alene Lake, and Hayden Lake. Lake Whitefish have only established an abundant and self-sustaining population in Lake Pend Oreille. A 2007 study estimated that this population could support a sustainable annual harvest of about 86,000 pounds. Despite having substantial harvest potential, the fishery is underutilized because they are somewhat difficult for many anglers to target and catch. A recent creel survey estimated an annual harvest of about 200 Lake Whitefish.

For the latter half of the 1900s, Pend Oreille was primarily known for abundant kokanee and trophy Rainbow Trout and Bull Trout. During the winter flood of 1933, kokanee became established in Lake Pend Oreille via downstream dispersal from Flathead Lake, Montana, where they had been stocked in 1916 from Lake Whatcom, Washington. Through the mid-1960s, the adult kokanee population supported a sport and commercial fishery averaging one million fish. Kamloops Rainbow Trout (Gerrard strain) from Kootenay Lake, British Columbia were introduced in 1941 and 1942. Kokanee were an ideal prey source for piscivorous Rainbow Trout and Bull Trout, and the lake was soon widely known for its unique trophy fishery. A world-record Rainbow Trout (37 lbs.) was caught in 1947, and the still-current world-record Bull Trout (32 lbs.) was caught in 1949.

Starting in the late-1960s, the kokanee population declined from historic levels due to a combination of factors, including habitat changes, competition with mysid shrimp, and excessive predation mortality. Initial declines appeared to be primarily related to impacts from dams. Cabinet Gorge Dam blocked a run of tributary spawning kokanee. At the same time, Albeni Falls Dam modified the natural annual hydrograph and lake level, thus altering shoreline spawning habitat for kokanee. Starting in 1966, the lake was drawn down an additional five feet in most winters to generate hydropower. These deeper winter drawdowns dewatered shallow kokanee spawning habitat, although contemporary research showed that more spawning habitat exists below the lowest winter lake elevation that previously thought. The Department continues to work with the U.S. Army Corps of Engineers to coordinate timing of drawdown to minimize impacts on spawning kokanee. Construction of the Cabinet Gorge Hatchery in 1986 to raise kokanee was done as mitigation for dam-related losses. Kokanee stocking continues to be used to supplement the wild population. Additionally, in 2017, the Department completed a kokanee spawning habitat enhancement project in Idlewilde Bay. Over one-half mile of new kokanee spawning habitat was created by adding suitable spawning gravel to the lakebed in an area with downwelling currents. This spawning habitat continues to receive high use by kokanee. Wild kokanee production has been high over the past decade and suggests that kokanee spawning needs are being met.

Kokanee were also negatively influenced by the introduction of mysid shrimp, which were stocked to enhance the food supply for kokanee. Stocking occurred from 1966-1969 and mysid shrimp were well established by 1974. Unfortunately, the daily migration of mysid shrimp to the depths of the lake made them unavailable to kokanee, but they provided an excellent food source for juvenile Lake Trout, which had been present in the system at insignificant densities since 1925. Ultimately, mysid shrimp allowed the Lake Trout population to dramatically increase and the added predation from Lake Trout threatened to collapse the kokanee population. Additionally, mysid shrimp compete with kokanee for the same zooplankton food source. Research indicates that a sustainable kokanee fishery can be achieved in the presence of mysids, although mysids have lowered the carrying capacity for kokanee.

By the 1990s, the kokanee population was at less than 10% of historical levels. Predation mortality became the primary factor driving the population, and kokanee continued to decline. By 2000, predation from multiple sources, but particularly from an exponentially growing Lake Trout population, threatened to collapse the kokanee population. The kokanee fishery was closed in 2000, and an aggressive fishery recovery effort was implemented in 2006. The focus of this effort was reducing predation on kokanee by suppressing Lake Trout abundance. The effort began with removal of the harvest limit on Lake Trout in 2000. Then, a rod-and-reel commercial Lake Trout fishery was opened in 2003. Despite these measures, exploitation was still inadequate to control the expanding Lake Trout population. In 2006, commercial netters were contracted to use trap and gill nets to remove Lake Trout, and an aggressive angler incentive program (AIP) was initiated that pays anglers $15 for each Lake Trout harvested. Additionally, rules were liberalized to allow use of an unlimited number of fishing rods. These efforts continue to be implemented annually. Combined netting and angler harvest has reduced adult Lake Trout abundance by 80%. In response, kokanee avoided collapse and a resurgence of the population occurred that has been sustained since 2013. The kokanee harvest fishery was re-opened in 2013 and quickly regained popularity with anglers. Suppression efforts will be continued to sustain low Lake Trout density. Simulation models indicate that fishing effort needs to be sustained at the current level to reach the management target of a 90% reduction from peak Lake Trout abundance. Afterwards, models suggest that fishing effort can be reduced substantially while sustaining that abundance level. Reaching the management target for Lake Trout with a subsequent reduction of netting effort will be monitored and evaluated during this planning period.

A primary management goal for Lake Pend Oreille is to sustain a trophy Rainbow Trout fishery. An abundant kokanee prey base is required to support fast growth of Rainbow Trout and the fishery has struggled when kokanee abundance is low. When kokanee were at risk of population collapse, the AIP was also applied to Rainbow Trout from 2006 to 2012. The intent was to temporarily suppress the Rainbow Trout population to further reduce predation mortality on kokanee and the risk of population collapse. Despite the harvest incentive, exploitation never exceeded 30% and Rainbow Trout abundance did not decline. However, size structure did decline and relatively few trophy fish were caught during these years. With the resurgence of kokanee, the transition was made back to trophy management for Rainbow Trout. The AIP ended when the kokanee fishery was re-opened in 2013, and restrictive harvest rules were restored. Rainbow Trout between 10 and 20 pounds are now caught regularly, with numerous fish over 20 pounds caught annually. The restored trophy fishery has been very popular, with 47% of the lake-wide angler effort in 2022 directed at Rainbow Trout. Additionally, catch-and-release fishing opportunity in the Clark Fork and Pack river drainages during the Rainbow Trout spawning migration has provided enhanced trophy fishing opportunity that is popular with anglers, without compromising the ability to sustain the trophy fishery in the lake.

Walleye have emerged as a major threat to sustaining the Lake Pend Oreille fishery. Walleye were illegally introduced into Noxon Reservoir, Montana in the early-1990s and by the early-2000s were present at low density in Lake Pend Oreille. Negative ecological effects and difficulties sustaining fisheries have been well-documented in other western U.S. waters where non-native Walleye are established. Concerns about Walleye in the Pend Oreille system center around added predation pressure on kokanee where decades of management efforts have been devoted to managing predation on kokanee to recover and sustain their population. In addition, Walleye predation poses a threat to other native fishes and non-native sport fish that are important to anglers. A recent University of Idaho study found that Walleye in the Pend Oreille system have a diverse diet, including 22 different fish species. Kokanee were the most frequently consumed prey item and made up the largest proportion of the Walleye diet by weight (67%) and energy content (80%). This work reaffirmed concerns about the potential for Walleye to have unsustainable predation impacts on kokanee and other fish species. A standardized gill net survey for Walleye in Lake Pend Oreille and the Pend Oreille River was first conducted in 2011 and has been repeated every three years. Walleye catch rates approximately doubled each time the survey was conducted from 2011 to 2017. After convening with a panel of experts from outside the agency, the Department began experimentally suppressing Walleye with gill nets in 2018 and instituted an AIP in 2019. In 2020, the Walleye population trend declined to approximately 2014 levels, but in 2023 had returned to levels similar to 2017. Walleye have exhibited variable recruitment and periodic strong year classes could make suppression more difficult. Overall, suppression appears to be curbing population growth and will be implemented as a standard management practice. Evaluation of suppression actions will continue, and netting effort will be adjusted as needed based on the Walleye population response.

Northern Pike were first documented below Cabinet Gorge Dam in the 1970s which is consistent with the period when they became widespread in Montana and other parts of northern Idaho. Northern Pike remained at a low level in the drainage and only showed up incidentally in sampling gear for decades; however, over the past decade their catch rates as bycatch in other sampling have sharply increased. In addition, a fishery for Northern Pike has developed in Lake Pend Oreille during that time. The Department is concerned about Northern Pike in the system primarily due to their potential predation impact on migratory salmonids near tributary mouths and native non-game fish that inhabit nearshore areas. Added predation on kokanee is also a concern, although to a lesser extent than from Walleye or Lake Trout. The Department is currently making efforts to minimize the threat of Northern Pike in the basin by removing all fish that are encountered during sampling, including suppression netting for Lake Trout and Walleye. A 2023 study found that angler exploitation of Northern Pike in Lake Pend Oreille is high (45%). Combined mortality from removals and angler harvest may be sufficient to keep Northern Pike at low density; however, this will be evaluated, and additional suppression measures will be taken if needed. Research will occur during this planning period to better understand Northern Pike distribution, population trends, and predation impacts.

Minimizing Bull Trout bycatch has been a central component of Lake Trout and Walleye suppression implementation. The Bull Trout population has remained relatively stable despite incidental bycatch mortality that has occurred since 2006. The USFWS has concurred that netting is benefitting the Bull Trout population through reduced predation and competition with Lake Trout and that the action is consistent with the State's Section 6 permit. An analysis of mark-recapture data for Bull Trout handled during suppression netting from 2011-2021 showed that adult and subadult Bull Trout survival significantly increased during that time, primarily from reduced Lake Trout abundance. In addition, genetic analysis of Bull Trout mortalities showed no evidence of disproportionate bycatch for various spawning stocks. Each year, a detailed analysis of the netting program is performed to determine how to best minimize Bull Trout bycatch. As a result of these efforts, bycatch mortality has been further reduced over the past five years. Research and monitoring in the lake and tributaries will be continued to better understand Bull Trout population trends and dynamics. We will also work towards sustaining a Bull Trout population that is robust enough to support a limited harvest fishery in the future.

Lake Trout and Walleye suppression has not only been important for recovering and sustaining the kokanee and Rainbow Trout fisheries, but also has benefitted conservation of native Bull Trout and Westslope Cutthroat Trout. The loss of adfluvial Bull Trout following Lake Trout invasions is well-documented throughout the range of Bull Trout. Increased growth and survival of Bull Trout in Lake Pend Oreille highlights the importance of suppression actions for conserving this population. Similarly, the ability to enhance adfluvial Westslope Cutthroat Trout would likely be limited in the presence of an abundant Lake Trout population. Fishery sampling efforts in Lake Pend Oreille tributaries indicate Westslope Cutthroat Trout are widely distributed with stable densities over the past three decades. Standardized surveys have been used to monitor Westslope Cutthroat Trout in the lake and will be repeated periodically. Catch-and-release rules were applied to Westslope Cutthroat Trout throughout the drainage (with the exception of lowland lakes and HMLs) in 2008 to conservatively manage the population. Improved population monitoring will allow fishing regulations to be evaluated in coming years. Significant management actions have been taken to improve habitat for Westslope Cutthroat Trout. The re-licensing of Avista's Cabinet Gorge and Noxon Rapids dams on the Clark Fork River in 1999 provides 45 years of mitigation funding through the Clark Fork Settlement Agreement for habitat acquisition and enhancement in Idaho tributaries to Lake Pend Oreille. The mitigation program is a key component to maintaining and improving fishery resources in the drainage. In addition to habitat conservation and restoration activities, the program provides funding for research activities that will guide and support native fish conservation efforts.

From the time of their introduction in the late-1960s until 2011, mysid shrimp were relatively stable at a high density in Lake Pend Oreille. A sudden collapse of this population occurred in 2011 and 2012 for reasons that are still not known. After several years of low density, a modest rebound was observed through 2020. During this time period, lower mysid shrimp density benefited kokanee because of less competition for zooplankton. Since 2020, mysid shrimp densities have increased and are approaching pre-collapse levels. Future monitoring will be conducted to evaluate the mysid shrimp population trend and its effect on kokanee and the overall food web.

Additionally, we will attempt to better understand the mechanisms that may be regulating mysid shrimp in the lake.

The Lake Pend Oreille fishery has dramatically improved over the past 10-15 years, much of which is attributed to the recovery of kokanee and reduced Lake Trout abundance. Angler satisfaction ratings during a 2022 creel survey were very high for all species, including those being managed against. Not only has fishing improved for traditionally valued coldwater species, but the fishery is more diverse than it was historically because of the presence of numerous non-native warmwater and coolwater species, particularly predator species. Anglers reported catching 19 fish species during a creel survey in 2022 of which 14 were non-native. Impacts that non-native species have on native species and other desirable sport fish vary and present management challenges. Many of these species at least partially rely on kokanee as a food source, which further highlights the importance of sustaining an abundant kokanee population. The warmwater and coolwater fishery continues to increase in popularity, although the proportion of angling effort directed at warmwater and coolwater fish species in the lake was still only 22% in 2022. Smallmouth Bass support a quality fishery and are the most popular of these species with anglers. While Smallmouth Bass likely have some negative effects on other native or desirable species, they appear to be compatible with fisheries management objectives for other species. Other non-native species that have received more attention from anglers in recent years include Northern Pike and Walleye, both of which pose greater risks to fisheries in the drainage and are deemed incompatible with fishery management objectives.

Until recently, fish passage facilities did not exist at Cabinet Gorge or Albeni Falls dams; however, Avista completed construction of a passage facility that began operating in 2023. Additionally, funding was appropriated for construction of a passage facility at Albeni Falls Dam and project planning is now well underway. Both facilities will allow Bull Trout and Westslope Cutthroat Trout to be transported upstream. The Department supports the efforts to enhance Bull Trout connectivity throughout the drainage and will continue working cooperatively with project partners. The connectivity issues at Albeni Falls Dam, along with marginal downstream habitat conditions, result in few Bull Trout occupying the Washington portion of the Pend Oreille River. As a result, reintroduction of Bull Trout to Sullivan Lake, Washington is being planned. A study identified Bull Trout from the Idaho portion of the drainage as the best source population for reintroduction. The Department is supportive of these efforts and plans to provide Bull Trout for this project if the benefits will be realized without compromising fisheries management objectives in Idaho.

In addition to fish passage facilities, Avista is implementing mitigation measures to address high levels of total dissolved gases (TDG). Levels exceeding state standards are common during spring runoff below Cabinet Gorge Dam. Fish exposed to high TDG (in excess of 110% of saturation) can suffer gas bubble disease and high mortality. During the record flood of 1997, TDG levels in excess of 130% were measured in the Clark Fork River, through the north end of Lake Pend Oreille and were in the range of 120-130% in the Pend Oreille River down to Albeni Falls Dam. Avista reached an agreement with the State of Idaho to mitigate for TDG by making modifications to the dam and by funding projects that benefit fishery resources that impacted in the Clark Fork River and Lake Pend Oreille.

The 26 miles of the Pend Oreille River impounded by Albeni Falls Dam is greatly influenced by up to an 11.5 foot annual winter drawdown. Additionally, the winter drawdown is also flexible within a five-foot window. The Pend Oreille River upstream of the dam is a warm slack water reservoir from June through September and a cold flowing river from October through May. For over 40 years, artificially high water has eliminated the natural vegetative cover along the shoreline, causing severe erosion and additional impacts to fish habitat. Habitat conditions have been limiting for coldwater species and some warmwater species. Higher winter pool levels that sometimes occurred in the past produced better overwinter survival and an improved fishery for warmwater species, such as Largemouth Bass and Black Crappie. Smallmouth Bass have become a predominant species over the past 20 years. In a 1992 electrofishing survey of the Pend Oreille River, Smallmouth Bass were virtually non-existent. Smallmouth Bass catch rates increased dramatically in surveys conducted in 2005 and 2010 and have remained stable since then. As Smallmouth Bass catch rates increased, a concurrent decrease in catch rates for Northern Pikeminnow and Redside Shiner was observed. Largemouth Bass have also declined and represented about 2% of the catch in a 2016 electrofishing survey. The recent increase in Walleye in the Pend Oreille River is likely to further change the fish community. Angler effort in the Pend Oreille River was 18,000 hours in 2022. The fishery is highly seasonal with most effort occurring during June through September when water levels allow better access. Most angler effort targeted Smallmouth Bass (60%) and Walleye (20%) in 2022. Winter drawdowns create very difficult boat access for anglers in both the river and lake. Improved winter boat access is needed to meet angler needs and will be explored during this planning period.

Spirit Lake has a surface area of 1,477 acres and a maximum depth of about 90 feet. The successful establishment of kokanee in Spirit Lake in 1937 created one of the most productive kokanee fisheries in Idaho, producing the most pounds of kokanee harvested per acre of lake. In the 1990s, weak age classes of mature kokanee were overharvested, primarily by ice anglers and resulted in a marginal summer troll fishery. Kokanee density was high on average in the 2000s and early-2010s. This commonly resulted in small size of adult kokanee that were less desirable to anglers. In 2016, the daily limit was raised from 15 to 25 kokanee to provide more harvest opportunity. Additionally, Chinook Salmon stocking began in 2016 as part of a statewide research project to evaluate relative performance of diploid (fertile) and sterile fish, along with evaluating their potential to help regulate kokanee density. Very few Chinook recruited to the fishery so stocking was discontinued in 2022. Recently, kokanee density has been lower on average and the quality of the fishery has been inconsistent. Fingerling Westslope Cutthroat Trout stocking has been successful and provides quality trout fishing and harvest opportunity in Spirit Lake. Other trout stocking strategies that may improve fishing opportunity will be investigated.

Ten additional lowland lakes in the Pend Oreille River drainage provide a diversity of angling opportunities (Kelso, Little Round, Granite, Cocolalla, Round, Stoneridge, Jewel, Shepherd, Gamble, and Mirror lakes). All of these lakes are managed with relatively simple regulations and liberal harvest opportunities for warmwater and coolwater fishes. Most are stocked with catchable Rainbow Trout. Cocolalla and Mirror lakes are also stocked with fingerling Westslope Cutthroat Trout. In addition, Cocolalla Lake provides a fishery for naturally reproducing Brown Trout and Brook Trout. Channel Catfish are stocked in Cocolalla Lake and Jewel Lake to diversify those fisheries. Similarly, tiger muskie are stocked in Shepherd Lake to add angling diversity; although, tiger muskie performance has been poor in recent years. Periodic lake surveys and return-to-creel evaluations will help make most effective use of limited hatchery products in the coming management period.

Fifteen HMLs in the lower Selkirk and Cabinet ranges, comprising ~126 acres, provide unique angling opportunities in backcountry areas of the drainage. Several of these lakes are stocked with Westslope Cutthroat Trout and/or Rainbow Trout. Sterile hatchery fish are prioritized to reduce impacts to downstream native fish populations. Naturally reproducing populations of Brook Trout also provide fishing opportunity in some of the HMLs in the drainage. In some locations, particularly the Lightning Creek drainage, these Brook Trout populations pose hybridization risk to downstream Bull Trout populations. In 2010, Porcupine Lake was chemically treated to remove Brook Trout and reduce downstream hybridization risk.

Objectives and Strategies

1. Objective: Sustain a kokanee population capable of supporting a consistent harvest fishery and a trophy Rainbow Trout fishery.

   Strategy: Continue Lake Trout suppression with the intent of reducing population abundance to a target of 90% below peak abundance. If this target is reached, reduce fishing effort and transition from full-scale suppression to maintenance suppression.

   Strategy: Continue research and evaluation of fish population dynamics and responses to Lake Trout, Walleye, and Northern Pike suppression, and responses to other management actions and biological factors.

   Strategy: Maintain hatchery stocking of kokanee fry and evaluate stocking strategies to better determine how to meet kokanee management goals.

   Strategy: Coordinate with U.S. Army Corps of Engineers and BPA to manage timing of fall drawdown in Lake Pend Oreille to minimize impacts to spawning kokanee.

2. Objective: Maintain the trophy fishery for Rainbow Trout.

   Strategy: Implement management actions necessary to sustain a trophy fishery for Rainbow Trout, including restrictive harvest regulations.

   Strategy: Work with anglers to implement the Angler Science Program to monitor performance of the Rainbow Trout fishery.

   Strategy: Provide fishing opportunity for trophy Rainbow Trout in the lake and rivers/streams to satisfy diverse angler interests.

3. Objective: Maintain or enhance existing native Westslope Cutthroat Trout and Bull Trout populations for conservation purposes and to improve angling opportunity.

   Strategy: Minimize Bull Trout bycatch mortality related to suppression netting programs through use of adopted best management practices and evaluate impacts of the netting program on the Bull Trout population.

   Strategy: Assess status of Bull Trout populations through redd counts, in-lake population estimates, and juvenile monitoring in tributaries.

   Strategy: Assess status of Westslope Cutthroat Trout populations using periodic netting surveys in the lake and juvenile monitoring in tributaries.

   Strategy: Work with IDWR and IWRB to maintain minimum stream flow water rights (Grouse Creek, Pack River, Lightning Creek, Pend Orielle River, Granite Creek, and Sullivan Springs), and maintain adequate connectivity and instream flow in 2^{nd}-6^{th} order tributaries.

   Strategy: Restore Bull Trout harvest opportunity when population achieves federal recovery plan criteria.

Strategy: Restore Westslope Cutthroat Trout harvest opportunity if population remains stable at current level.

Strategy: Conserve populations of Westslope Cutthroat Trout and Bull Trout by suppressing Lake Trout, Walleye, and Northern Pike.

Strategy: Work with Avista mitigation program, landowners, and partner agencies to address habitat limitations where feasible through conservation easements, acquisitions, and habitat restoration projects.

Strategy: Work with Avista, Montana Fish, Wildlife and Parks, and USFWS to adaptively manage and increase success of Bull Trout and Westslope Cutthroat Trout passage efforts at Cabinet Gorge Dam.

Strategy: Collaborate with U.S. Army Corps of Engineers, Kalispel Tribe, and USFWS on construction and implementation of a fish passage facility at Albeni Falls Dam.

Strategy: Monitor abundance, distribution and genetic integrity of Westslope Cutthroat Trout in tributaries to Lake Pend Oreille and the Pend Oreille River to evaluate where adfluvial and resident fish are still present, where non-native salmonids pose risks, and where habitat is limiting.

4. Objective: Evaluate the ecological effects of recently expanded non-native species on native and/or desirable sport fish species and reduce impacts where feasible and practical.

Strategy: Continue research and monitoring of Walleye, including population trends and dynamics, distribution, sources of recruitment, and angler exploitation.

Strategy: Implement Walleye suppression program and adjust effort as needed to keep population at low density.

Strategy: Increase research and monitoring of Northern Pike, including population trends and dynamics, distribution, sources of recruitment, diet, and angler exploitation.

Strategy: Suppress Northern Pike by removing fish encountered during sampling and suppression activities for other species. Adjust suppression effort as needed in response to Northern Pike population trend to keep population at low density.

5. Objective: Oversee and implement mitigation programs that fund projects in the drainage.

Strategy: Work with BPA to implement research, monitoring, and evaluation funded as mitigation for the operation of Albeni Falls Dam.

Strategy: Work with signatories to the Clark Fork Settlement Agreement to implement projects funded as mitigation for impacts from dams on the Clark Fork River.

6. Objective: Improve boating access on the Pend Oreille River and the north and northwest portion of Lake Pend Oreille during winter drawdown to allow more angler effort targeting coolwater fisheries (e.g., Walleye, Northern Pike, Smallmouth Bass).

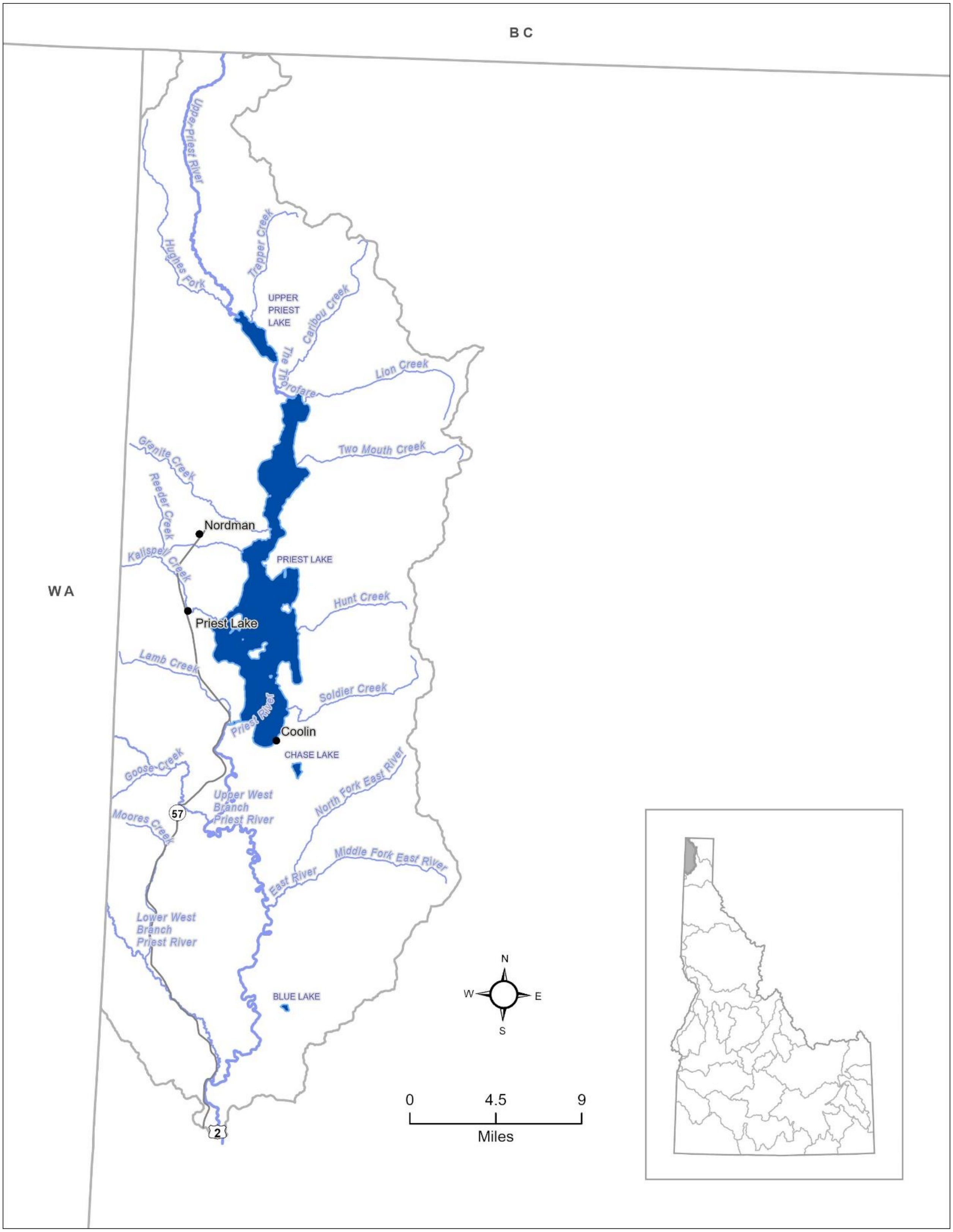
Strategy: Explore opportunities to develop new access sites or modify existing sites to allow launching of boats during winter drawdown. Collaborate with other entities as necessary.

Drainage: Pend Oreille River				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
Lake Pend Oreille and Tributaries (174 miles/92,765 acres)	Bull Trout	Native	Trophy	Restore limited harvest when possible. Restore/protect important tributary habitat. Utilize BMP's to minimize bycatch of bull trout in netting program.
	Westslope Cutthroat Trout Mountain Whitefish	Native	General	Maintain restrictive regulations on the lake and tributary streams used by adfluvial fish to maximize production of wild fish for the lake.
	Rainbow Trout	Wild/natural	Trophy	Sustain trophy fishery for Rainbow Trout population by maintaining restrictive harvest limits and managing for abundant kokanee prey base.
	Smallmouth Bass	Wild/natural	Quality	Utilize AIPs and commercial netting to reduce Lake Trout and Walleye populations. Continue monitoring and research of Walleye populations and increase for Northern Pike. Remove Northern Pike when encountered during other netting efforts.
	Lake Trout Walleye Northern Pike Brook Trout	Incompatible		Sustain yield kokanee fishery. Use hatchery stocking to supplement kokanee population. Where practical, remove Brook Trout from tributaries or HMLs where they pose a threat to Cutthroat and Bull Trout.
	Kokanee Largemouth Bass Lake Whitefish Black Crappie Yellow Perch Brown Trout	Wild/natural	Yield	Maintain existing warmwater/coolwater fisheries where they are compatible with salmonid management programs. Improve boat access to the north and northwest portion of lake during winter drawdown to allow more angling for coolwater species.

Pend Oreille River and tributaries (174 miles/8,760 acres)	Westslope Cutthroat Trout Bull Trout Walleye Northern Pike Largemouth Bass Smallmouth Bass Panfish Brown Trout	 Native Incompatible Wild/natural Wild/natural	General Conservation Quality Yield	Maintain restrictive regulations and restore/protect habitat to maximize production of wild adfluvial fish. Encourage angler harvest and implement suppression actions as needed for Walleye and Northern Pike. Conduct research and monitoring to better understand population trends/dynamics and impacts. Maintain existing warmwater/coolwater fisheries where they are compatible with salmonid management programs. Collaborate with WDFW, USFWS, Kalispel Tribe, USFS and Corps of Engineers on construction/operation/management of fish passage at Albeni Falls Dam on the Pend Oreille River. Improve boat access to Pend Oreille River during winter drawdown to allow more angling for coolwater species.
Kelso, Little Round, Granite lakes (95 acres)	Rainbow Trout Largemouth Bass Panfish Bullhead	Hatchery-supported Wild/natural	Yield Yield	Manage with simple regulations and provide harvest-oriented fisheries. Provide a trout fishery in Kelso and Granite lakes by stocking catchable Rainbow Trout.
Cocolalla, Round, Blanchard (Stoneridge Reservoir), Jewel lakes (1040 acres)	Rainbow Trout Westslope Cutthroat Trout Bullhead/Channel Catfish Brook Trout Brown Trout Largemouth Bass Panfish	Hatchery-supported Wild/natural	Yield Yield	Maintain put-and-take trout fisheries in all waters by stocking catchable Rainbow Trout. Provide additional coldwater fishery diversity in Cocolalla Lake by stocking fingerling Westslope Cutthroat Trout. Enhance diversity of warmwater fishery in Cocolalla and Jewel lakes by stocking Channel Catfish. Manage with simple regulations and provide harvest-oriented fisheries.

Spirit Lake and tributaries (10 miles/1,535 acres)	Kokanee Rainbow Trout Brook Trout Largemouth Bass Smallmouth Bass Panfish Bullhead Westslope Cutthroat Trout	Wild/natural Hatchery-supported	Yield Yield	Maintain a yield kokanee fishery. Provide a trout fishery by stocking fingerling Westslope Cutthroat Trout. Maintain the existing fishery for warmwater/coolwater species.
Shepherd and Gamble Lakes (240 acres)	Tiger Muskie Largemouth Bass Panfish Bullhead	Hatchery-supported Wild/natural	Trophy Yield	Maintain tiger muskie stocking in Shepherd Lake to diversify fishery and provide unique trophy fishery. Maintain the existing fishery for warmwater/coolwater species. Manage with simple regulations and provide harvest-oriented fisheries.
Mirror Lake (85 acres)	Rainbow Trout Westslope Cutthroat Trout Kokanee Brook Trout	Hatchery-supported Wild/natural	Yield Yield	Maintain a trout fishery by stocking catchable Rainbow Trout and fingerling Westslope Cutthroat Trout.

3. Priest River Drainage



Overview

The Priest River drainage is located in the northwest corner of the Idaho Panhandle in the Selkirk Mountains. The watershed is approximately 600 square miles and consists primarily of coniferous forest. Priest Lake and Upper Priest Lake are the two primary fisheries in the drainage. Priest Lake has about 62 miles of shoreline, a surface area of about 23,360 acres, and a maximum depth of 369 feet. Upper Priest Lake has about 8 miles of shoreline, a surface area of about 1,400 acres, and a maximum depth of 103 feet. The level of both lakes is maintained at 2,438 feet in elevation from the end of spring runoff until mid-October by a small dam at the outlet of Priest Lake. Upper Priest Lake is connected to Priest Lake by a channel known as the Thorofare. The Thorofare is about two miles long, 230 feet wide, and generally 5-10 feet deep. At its outlet into Priest Lake, the Thorofare is 3 to 4 feet deep at summer pool level. When the lake levels reach low pool level, depth of the Thorofare at its outlet is <12 inches deep, impeding boat traffic. During summer months, the Thorofare receives heavy boat traffic. Numerous other small fisheries exist throughout the drainage including tributaries to Priest and Upper Priest lakes, Priest River and its tributaries, several small lowland lakes (e.g., Blue Lake, Chase Lake, Freeman Lake), and a series of HMLs located along the eastern boundary of the drainage in the Selkirk Mountains.

Native game fishes of the Priest River drainage include Westslope Cutthroat Trout, Bull Trout and Mountain Whitefish. Westslope Cutthroat Trout in the drainage exhibit both migratory and resident life histories. Migratory fish rear in tributaries for two to four years prior to migrating to lakes. Spawning begins in April and generally ends by mid-June. Strong populations of Westslope Cutthroat Trout are present in most tributaries to Priest Lake and Upper Priest Lake. Status of Priest River tributary trout populations is variable with some having been largely replaced by non-native fishes while others have retained strong native fish assemblages. Bull Trout were once distributed widely in the drainage. Currently, Bull Trout are primarily found in Upper Priest Lake, Upper Priest River, and Middle Fork East River. Bull Trout exhibit a migratory life history, spawning and rearing for several years in tributaries before migrating to a lake environment. Although a migratory life history is dominant in the drainage, a population of Bull Trout located in North Fork Indian Creek is thought to display a resident life history. Juvenile Bull Trout in the tributaries of the Middle Fork East River (Priest River tributary) display a unique migratory pattern by migrating down the Priest River and upstream through the Pend Oreille River to Lake Pend Oreille, rather than a typical exclusively downstream migration from spawning and rearing tributaries. Mountain Whitefish are found in low numbers in some of the larger tributaries to Priest Lake and Upper Priest Lake and in somewhat higher densities in the Priest River.

The Westslope Cutthroat Trout fishery in Priest and Upper Priest lakes was historically popular, with pre-1950s angler accounts suggesting high catch rates and large fish size. As early as the 1940s, Westslope Cutthroat Trout abundance in these lakes was believed to have declined. A number of factors likely contributed to this decline, including habitat degradation, overfishing, and non-native species introductions. Hatchery supplementation was used to bolster Westslope Cutthroat Trout in the drainage, but with little observed influence. In 1988, Westslope Cutthroat Trout harvest was closed in the Priest River drainage. Although Westslope Cutthroat Trout abundance in Priest Lake is below historical levels, angler data suggests the population has remained relatively stable over the last 60+ years with catch rates varying from 0.2 to 0.6 fish per hour. Angler effort targeting Westslope Cutthroat Trout over the same time period has been consistently low (<10% of total estimated angler effort in creel surveys). Recent (2014-2021) monitoring of Westslope Cutthroat Trout in both lakes utilizing a standardized gill net survey also suggested populations are stable and occur at moderate abundance. Both Upper Priest and Priest lakes currently provide Westslope Cutthroat Trout fishing opportunity with moderate catch rates (≥ 0.5 fish/hour in 2014).

Similarly, Bull Trout were historically more abundant and provided a popular sport fishery in Priest and Upper Priest lakes and their tributaries. Causes of decline for Westslope Cutthroat Trout also are thought to have impacted Bull Trout; however, the expansion of Lake Trout in Priest Lake was the primary cause of severe decline and the eventual functional extirpation of Bull Trout in that part of the drainage. Bull Trout harvest was discontinued in 1984 because of declining abundance. Current catch-and-release fishing opportunity for Bull Trout is effectively limited to Upper Priest Lake where suppression of Lake Trout has allowed this population to be conserved.

Kokanee were introduced to Priest Lake in the 1930s and 1940s and quickly became the most abundant game fish, replacing Westslope Cutthroat Trout in popularity. Kokanee provided a high yield sport fishery for anglers from the 1950s through the early-1970s and catch rates were high (>1.0 fish/hour) for small to moderate size kokanee. During this period, kokanee supported most of the angler effort on Priest and Upper Priest lakes. Kokanee catch rates dramatically declined in the 1970s and by the early 1980s the fishery had collapsed. Kokanee predation by a growing Lake Trout population was determined to be the primary cause of collapse. Through the 1980s, millions of kokanee fry were stocked into Priest Lake to reestablish a viable fishery. However, hatchery stocking had little influence on the kokanee population. Functionally, the kokanee population collapsed in the 1980s, but kokanee remain in Priest Lake and Upper Priest Lake at low densities. Harvest of kokanee was closed in the late-1980s but was re-opened in 2011 to simplify fishing regulations. From 2011 to 2015, Priest Lake anglers experienced moderate catch rates (~0.9 fish/hour) and large average size kokanee (14” to 16”) because of an unexpected and short-lived increase in population density. With improvements in kokanee catch rates post-2011, angler effort targeting kokanee increased and represented approximately 20% of the estimated effort in 2014. Despite the short-term density increase, kokanee surveys during this time showed densities remained low relative to other area lakes. Since then, kokanee density has returned to pre-2011 levels and angler effort has decreased correspondingly.

Lake Trout were introduced to Priest Lake by the U.S. Fish Commission in 1925. Lake Trout were a minor component of the fishery for many years, but provided a trophy component when kokanee were abundant. Angler effort targeting Lake Trout began increasing in the mid-1960s, but average catch rates remained low (≤ 0.1 fish/hour) until the late-1980s. The state record Lake Trout of 57½ lbs. was caught in Priest Lake in 1971. Lake Trout abundance increased dramatically in Priest Lake following the introduction of Mysis in the mid-1960s. Although intended to provide a supplemental food source for kokanee, this had limited benefit and instead provided an abundant food source for juvenile Lake Trout. Improved juvenile Lake Trout survival allowed for rapid expansion of Lake Trout in Priest Lake. Higher Lake Trout abundance led to unsustainable levels of predation on kokanee and their population soon collapsed. Subsequently, Lake Trout growth rates declined due to a reduction in available prey. The current Lake Trout population is dominated by abundant and slow-growing fish. Because growth rates are slow, little opportunity exists to improve the size structure of the population. Angler catch rates for Lake Trout increased since the mid-1980s and was last estimated to be approximately 1.0 fish per hour in 2014. Since reaching high density, Lake Trout have dominated angler interest in the Priest Lake fishery. Although Lake Trout are now the primary target of anglers on Priest Lake, the fishery remains self-sustaining with relatively low angler exploitation. Recently, the Lake Trout fishery has been influenced by a collapse of mysid shrimp that began in 2018. This decline appeared to negatively impact Lake Trout body condition and reduce the bright orange fillet color that anglers prefer. Angler reports strongly suggested that catch rates for Lake Trout declined, likely from fish being more dispersed throughout the lake looking for alternate food sources. Mysid density increased in 2023, but the long-term trend for their population and its impact on Lake Trout is uncertain. A similar mysid shrimp collapse occurred in Lake Pend Oreille in 2011-2012, and the population remained at low density for about a decade. They have now increased in abundance, but remain below the pre-collapse average density for Lake Pend Oreille.

Several other introduced fish species occupy Priest Lake including Smallmouth Bass, Tench, Yellow Perch, Largemouth Bass, Rainbow Trout, and Northern Pike. Most have been present in the lake for decades and represent a small component of the fish community. Northern Pike, although documented in Priest Lake, have not been detected in recent surveys. Smallmouth Bass were established in the early 2000s in Priest Lake either by illegal introduction or through migration up the Priest River from the Pend Oreille River. Smallmouth Bass are now relatively abundant and distributed throughout the lake. They have slow growth and smaller size structure than other regional populations but do provide high catch rates for anglers. Smallmouth Bass are largely compatible with fishery management objectives in Lake Pend Oreille and Coeur d'Alene Lake so potential impacts to the Priest and Upper Priest lakes fisheries is thought to be relatively minimal.

The focus of fishery management on Priest Lake and Upper Priest Lake has been divided since the 1980s when Lake Trout began to dominate Priest Lake. Priest Lake has been managed primarily as a yield Lake Trout fishery since that time, while the focus on Upper Priest Lake has been native fish conservation. Tributaries in the Upper Priest Lake basin have good potential to support high densities of Westslope Cutthroat Trout and Bull Trout because they provide quality stream habitat with little influence from non-native fishes. Lake Trout were not known to be present in Upper Priest Lake until the mid-1980s but became well-established in the 1990s following immigration from Priest Lake through the Thorofare. The negative impact of Lake Trout on native fish species, such as Bull Trout, is a concern. Since 1998, the Department has implemented a Lake Trout suppression program in Upper Priest Lake to reduce the potential impact of Lake Trout on native fishes. Lake Trout have been removed annually in this effort, typically varying from 1,500 to 5,000 fish annually. In response, Bull Trout and Westslope Cutthroat Trout remain a key component of the fishery and an increase in Bull Trout abundance has been documented since suppression began. The Department and partners have evaluated methods for reducing migration of Lake Trout from Priest Lake to Upper Priest Lake with limited success. Suppression of Lake Trout in Upper Priest Lake will be continued during this planning period.

Angler effort in the Priest Lake fishery has declined approximately 50% since the 1950s and is low (50,000 hours) relative to other regional waters of similar size. While Lake Trout remain a popular target among Priest Lake anglers, there is an expressed interest in an alternative fishery management focus. In response to angler input, the Department entered into an evaluation of Priest and Upper Priest lakes and engaged with anglers to discuss potential long-term management alternatives during the 2013-2018 Fisheries Management Plan period. Ultimately, a stakeholder group and public opinion surveys indicated that angler interest in long-term management direction was divided. About 50% of participants preferred to see Priest Lake managed primarily as a Lake Trout fishery while the other half preferred a return to the traditional fishery for kokanee and native trout, which would require Lake Trout suppression. Without clear support for a major change in management, Priest Lake has continued to be managed primarily as a yield Lake Trout fishery. During the 2019-2024 planning period, there was a resurgence in angler comments requesting management that favors traditional species rather than Lake Trout. Additionally, comments were received that indicated angler dissatisfaction with the current Lake Trout fishery and a desire for management actions to improve Lake Trout fishing. The influence of the mysid shrimp decline on Lake Trout likely motivated many of these responses. Although angler perspectives were not entirely consistent, a commonality was that the fishery is not performing well. The amount of feedback received indicates a need to engage with anglers to re-evaluate the long-term management of Priest Lake, particularly if mysid shrimp remain at low density and lead to continued low catch rates for Lake Trout.

Management of Priest and Upper Priest lakes as separate fisheries in perpetuity is a long-term challenge. However, public support for managing the lakes separately and the success of Lake Trout suppression efforts in Upper Priest Lake both justify continuation of this strategy. Long-term management success will largely depend on the continued ability to secure adequate funding for Lake Trout suppression in Upper Priest Lake. Securing this funding was increasingly challenging during the prior planning period, primarily as a result of lost funding support from the USFWS that historically funded the majority of this work.

The Priest River below Outlet Dam flows about 46 miles before entering the Pend Oreille River. The river provides little suitable year-round habitat for salmonids. Although many components of suitable habitat are relatively abundant in the river, use by coldwater fish species is primarily limited by warm water temperatures during mid- to late-summer. Priest Lake outflow typically exceeds 70° F during this period, and coldwater input from tributaries in insufficient to adequately cool water temperatures in the river. A comprehensive survey of the river in 2019 identified Mountain Whitefish as the most abundant species, followed by Smallmouth Bass and Westslope Cutthroat Trout. Overall, average densities were low and over 90% lower than densities observed in the Coeur d'Alene River. While the Priest River provides limited suitable year-round habitat for coldwater fishes, it is a valuable migration corridor for Westslope Cutthroat Trout. Cooperative efforts by the Kalispel Tribe and Eastern Washington University during the previous planning period have improved our understanding of Westslope Cutthroat Trout use of the Priest River. Their work showed that a high proportion of migratory Westslope Cutthroat Trout from Lake Pend Oreille use Priest River tributaries for spawning and rearing.

To improve habitat quality for coldwater fishes in the lower Priest River, a coldwater bypass concept was evaluated over the last two planning periods as a strategy for cooling water temperatures in the Priest River during summer. A study conducted by Portland State University showed that replacing warm surface outflow from Priest Lake with colder water could create suitable temperatures for salmonids throughout the river during summer. An engineering evaluation of numerous alternatives was completed, and the preferred alternative involved piping cold water from the hypolimnion of Priest Lake into the Priest River at Outlet Dam using a gravity feed withdrawal. Engagement with the public occurred throughout the evaluation process. Before information gathering and a feasibility assessment was completed, the concept became very controversial among the public. Strong support and opposition emerged and eventually became organized. In 2023, legislation was passed that requires legislative approval for any implementation actions that would modify Outlet Dam. The controversy surrounding this concept led to the formation of the Priest River Watershed Group, a stakeholder group led by Trout Unlimited. This group brings together stakeholders in the area with varying interests and perspectives, and their primary focus is to discuss and ultimately make recommendations for improving water quality, water quantity, and aquatic and riparian habitat in the mainstem of the lower Priest River. The Department has continued interest in identifying and implementing management actions that improve habitat for coldwater fishes and benefit recreational angling in the Priest River. During this planning period, we will collaborate with the Priest River Watershed Group, the Kalispel Tribe, and other entities to identify and pursue habitat restoration actions that have broad public support.

Approximately 11 HMLs in the Selkirk range are stocked with trout fry on a rotating basis. Stocking densities have been adjusted to maximize fish growth at a given lake elevation. Only Westslope Cutthroat Trout and sterile Rainbow Trout fry are used to stock mountain lakes to reduce potential impacts to native fish populations downstream (see High Mountain Lake Management). Westslope Cutthroat Trout, Rainbow Trout, and Brook Trout are present in most of the stocked lakes.

Objectives and Strategies

1. Objective: Re-evaluate long-term management direction for Priest Lake.

   Strategy: Conduct outreach and/or surveys to evaluate fishery performance and angler satisfaction to determine if current management is producing outcomes that are desirable to anglers.

   Strategy: Engage with the public, stakeholders, and local community leaders to determine if opinions have changed regarding the preferred management direction for Priest Lake.

2. Objective: Maintain a yield fishery for Lake Trout in Priest Lake.

   Strategy: Monitor Lake Trout population dynamics including relative abundance, growth, and mortality to evaluate the effectiveness of current harvest limits for Lake Trout.

   Strategy: Monitor mysid density to evaluate the impacts of a reduce food source on Lake Trout population dynamics and fishery performance.

3. Objective: Maintain and enhance native fish populations in Priest Lake and Upper Priest Lake.

   Strategy: Conserve native Westslope Cutthroat Trout and Bull Trout populations by maintaining conservative harvest regulations in the lakes and tributaries.

   Strategy: Work with the Forest Service, Kalispel Tribe, and Idaho Department of Lands to improve habitat conditions in tributary streams.

   Strategy: Work with IDWR and IWRB to maintain minimum stream flow water rights (Priest River and North Fork East River) and maintain adequate connectivity and instream flow in 2^{nd}-6^{th} order tributaries.

   Strategy: Monitor Bull Trout and Westslope Cutthroat Trout population status by conducting surveys in Upper Priest Lake tributaries.

   Strategy: Continue annual suppression of Lake Trout from Upper Priest Lake to reduce predation mortality on native fishes.

   Strategy: Encourage angler harvest of Lake Trout in Upper Priest Lake to supplement Lake Trout suppression efforts.

   Strategy: Evaluate additional or modified methods for reducing Lake Trout abundance in Upper Priest Lake (e.g., gill netting of spawning fish).

4. Objective: Seek opportunities to improve the coldwater fishery in the lower Priest River.

   Strategy: Collaborate with the Priest River Watershed Group and other interested parties to identify broadly supported management actions for improving habitat for coldwater fishes in the lower Priest River drainage.

Strategy: Work cooperatively with Kalispel Tribe to improve understanding of Westslope Cutthroat Trout habitat use and movement patterns in the Priest River.

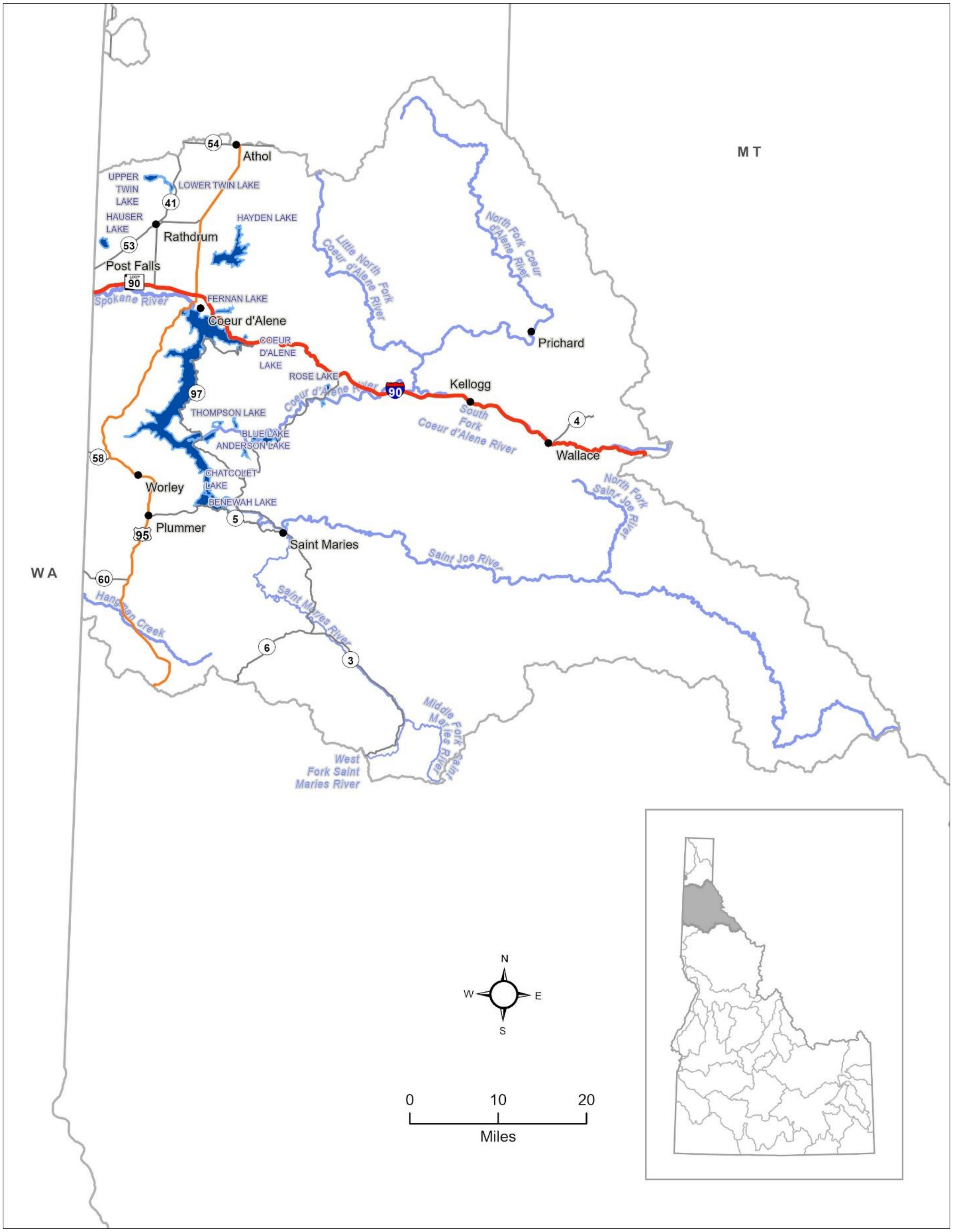
Strategy: Conserve or restore populations of Westslope Cutthroat Trout and Bull Trout by removing non-native species in tributaries where feasible and practical.

Drainage: Priest River

Waterbody	Species of Interest	Management Strategies: Primary	Management Strategies: Secondary	Additional Management Directions
Priest Lake and tributaries (140 miles/23,340 acres)	Westslope Cutthroat Trout	Native	Quality	Manage Priest Lake and tributaries with conservative regulations to protect native salmonid populations.
	Bull Trout	Native	General	Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
	Kokanee	Wild/natural	Quality	Maintain a low density and low catch rate fishery for larger (14”-16”) kokanee.
	Lake Trout Smallmouth Bass	Wild/natural	Yield	Maintain a high density and high catch rate Lake Trout harvest fishery for 15” to 20” fish.
	Brook Trout	Incompatible		Provide consumptive fishing opportunities for Brook Trout in Priest Lake tributaries to reduce Brook Trout abundance and offset harvest restrictions on adfluvial Westslope Cutthroat Trout in streams. Re-evaluate public support for long-term management alternatives that were developed prior to the last planning period.
Upper Priest Lake and Tributaries (20 miles/1,340 acres)	Westslope Cutthroat Trout	Native	Quality	Manage with conservative regulations to protect native salmonid populations. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
	Bull Trout	Native	General	
	Kokanee		Quality	Allow unlimited harvest of Lake Trout and liberal harvest of Brook Trout. Reduce Lake Trout abundance with annual suppression gill netting.
	Smallmouth Bass	Wild/natural	Yield	Explore alternative methods for reducing Lake Trout abundance in Upper Priest Lake.
	Lake Trout Brook Trout			
		Wild/natural		
		Incompatible		

Lower Priest River (46 miles) and Tributaries	Westslope Cutthroat Trout Mountain Whitefish Bull Trout Smallmouth Bass Brook Trout	Native Native Wild/natural Incompatible	General General Yield	Manage with conservative regulations to protect native salmonid populations. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance. Collaborate with PRWG and other entities to identify and implement management actions with broad public support that improve habitat for coldwater fishes. Enhance native fish populations by removing non-native fishes in tributaries where beneficial, practical, and feasible.
Freeman/Blue Lakes	Rainbow Trout Largemouth Bass Panfish Bullhead Tiger Muskie	Hatchery-supported Wild/natural Hatchery-supported	Yield Yield Trophy	Stock catchable Rainbow Trout in Freeman Lake to support harvest-oriented trout fishery. Maintain harvest-oriented opportunity for warmwater/coolwater species. Maintain tiger muskie stocking in Blue Lake to diversity fishery and provide unique trophy fishing opportunity.
Chase Lake	Largemouth Bass Panfish Bullhead	Wild/natural Wild/natural	Quality Yield	Maintain opportunity for quality size Largemouth Bass. Maintain harvest-oriented fisheries for warmwater/coolwater species.

4. Spokane River Drainage



Overview

The Spokane River upstream of the Idaho, Washington border drains about 3,840 square miles in northern Idaho. Major tributaries in the drainage include the St. Joe, St. Maries and Coeur d'Alene rivers, which all feed into Coeur d'Alene Lake. The Spokane River is the outlet to the lake and flows into Washington. Habitat in the drainage is diverse. There are many lowland lakes ranging from a few acres to 31,487-acre Coeur d'Alene Lake. Several lakes are close to the major population center of Coeur d’Alene and support important urban fisheries. Numerous mountain lakes are found in the headwaters of the South Fork Coeur d'Alene and St. Joe rivers.

Native game fish include Westslope Cutthroat Trout, Bull Trout, and Mountain Whitefish. Additionally, a small, disjunct population of native Redband Trout is present in Hangman Creek, which is almost entirely within the boundaries of the Coeur d’Alene Indian Reservation. Introduced sport fish include Rainbow Trout, kokanee, Brook Trout, Brown Trout, Chinook Salmon, Largemouth Bass, Smallmouth Bass, Pumpkinseed, Bluegill, Green Sunfish, Yellow Perch, Black Crappie, Brown and Black Bullhead, Channel Catfish, tiger muskie and Northern Pike.

Impoundment of Coeur d’Alene Lake by Post Falls Dam flooded river sections that were formerly free flowing. In 2009, the FERC issued a 50-year operating license to Avista for the Spokane River Hydroelectric Project, which includes Post Falls Dam. Part of the agreement requires Avista to provide mitigation funds for a Fisheries Protection and Enhancement Plan. This plan is implemented by Avista but developed with and subject to approval by the Department, IDEQ, and the USFWS. The Plan specifies activities associated with public education, habitat conservation and restoration, native salmonid population enhancement, and recreation.

The Spokane River below Post Falls Dam historically supported a good fishery for wild Rainbow Trout and Brown Trout as recently as the 1990s; however, populations have since declined and no longer support a meaningful fishery. Much of the decline is presumably related to warm summer water temperatures. The river is fed by warm surface flows out of Coeur d’Alene Lake, which have increased over time. Excessively warm water temperatures in 1992, 1994 and 2003 resulted in declines in the Rainbow Trout fishery. In 1985, Rainbow Trout density based on electrofishing in the 10 km reach straddling the state line was about 2,000 fish/km. In 2007, density in the reach immediately downstream was only 61 fish/km. Density eventually became low enough that routine surveys were discontinued. In addition to water temperature limitations, productivity of the river has decreased, thereby decreasing algal and invertebrate abundance. The effects of decreased food availability may be exacerbated by the high metabolic demands caused by warm water temperatures. Finally, Smallmouth Bass have become abundant, possibly affecting juvenile trout survival. Increased minimum stream flows were mandated by the FERC license but have not produced a detectable population response. Unless a cooler water source becomes available, further increases to flows would be unlikely to provide a benefit to salmonids.

Management authority in a portion of the Spokane River drainage is shared with the Coeur d’Alene Tribe. On July 28, 1998, a decision from the Federal 9th District Court awarded to the Coeur d’Alene Tribe management of the water and fishery resources within the 1873 reservation boundaries. This includes the approximate southern one-third of Coeur d’Alene Lake, the southern one-half of Black Lake, the lower 20 miles of the St. Joe River, and several major tributaries including Lake, Plummer, Benewah and Evans creeks. The water of Coeur d’Alene Lake within the boundaries of Heyburn State Park, including Chatcolet and Benewah lakes was excluded from the court decision, but state versus tribal ownership and management remains unresolved. The Department attempts to work cooperatively with the Coeur d’Alene Tribe to manage fish populations, including the use of similar regulations to meet management goals and reduce angler confusion.

Historical mining, logging and forest development, highway construction, and other land uses have taken a major toll on the Coeur d'Alene drainage fisheries. Heavy metal pollution, stream channelization and sedimentation and migration blocks related to the extensive mining history have had an especially severe impact on Westslope Cutthroat Trout and Bull Trout. In 2009, the EPA announced a superfund settlement with Asarco that will provide nearly $500 million for clean-up of contaminants in the Coeur d'Alene drainage. In 2011, an agreement with Hecla mining company was filed, which resulted in an additional $140+ million for restoring fish and wildlife habitat and water quality in the basin. The Department and IDEQ represent the state in implementation of the program. Other trustees include the Coeur d'Alene Tribe, U.S. Dept. of Interior, and the USFS These funds provide tremendous potential to improve aquatic habitat and associated fish populations throughout the drainage and will be pursued to support projects during this planning period.

Kokanee were historically the most sought-after sport fish in Coeur d'Alene Lake. In 1979, anglers harvested nearly 600,000 kokanee in over 250,000 angler hours of effort. By 1981, kokanee numbers increased to the point where growth slowed and anglers increasingly complained the fish were unacceptably small. Fall Chinook Salmon were introduced in 1982 to decrease the abundance of kokanee and diversify the fishery. Through the 1980s, the program was successful in creating a low catch rate trophy Chinook fishery with 300-500 fish harvested annually, some of them in excess of 30 pounds. As the popularity of the Chinook fishery increased, so did the demand for increased Chinook stocking. At the same time, Chinook were successfully reproducing naturally, and the contribution of hatchery fish to the fishery diminished over time.

In the 1990s, anglers became increasingly effective at targeting Chinook throughout the year. Annual harvest increased around 10-fold, but mean size decreased, and few fish exceeded 20 pounds. Kokanee densities remained high through the mid-1990s, but size at maturity was sufficient to maintain angler interest and a popular fishery. In 1996 and 1997, severe floods caused the majority of juvenile kokanee to emigrate from the lake, setting off a period of imbalance that lasted over ten years. Kokanee harvest was severely restricted, and efforts to decrease Chinook numbers through redd excavation, liberalized limits, and cessation of stocking were implemented. By 2010, kokanee had recovered to pre-flood levels, and a 15-kokanee daily limit was restored. Though this may be partly the result of the implemented actions, it was more likely a function of favorable environmental conditions that led to an upswing in kokanee populations throughout the region. On average, kokanee density has remained high over the past 15 years and served as an abundant prey source.

After over 40 years of managing the kokanee and Chinook populations, it is evident there are significant limitations to regulating both populations to maintain a consistent balance. In addition to environmental factors affecting kokanee, there is limited ability to influence the Chinook population. A retrospective look at the fishery also demonstrates the impact a healthy kokanee population has on angler effort—both for kokanee and for Chinook. Angler effort from the 1980s through the mid-1990s varied from 200,000 to 250,000 hours, but angler effort was only 154,000 hours in 2009 when the kokanee limit was reduced to six and the Chinook population was depressed, and much of the effort was for warmwater species. During this time, kokanee harvest decreased to less than 20,000 fish from historical highs of more than 500,000 fish. For decades, considerable effort has been spent trying to improve survival of hatchery Chinook and thereby improve consistency of the fishery. Despite numerous changes to hatchery stocks, aquaculture practices, and stocking timing and location, hatchery Chinook recruit to the fishery at an extremely low level. In 2023, stocking of Chinook was discontinued, and the population will now be entirely reliant upon natural recruitment. This should be undetectable to anglers since hatchery fish have not made meaningful contributions to the fishery for decades. Managing for an abundant kokanee population, while balancing adult size will continue to be an emphasis, both to support a popular harvest-oriented fishery and provide a prey source for Chinook and other predators, such as Bull Trout and Smallmouth Bass.

The St. Joe and Coeur d'Alene rivers and their tributaries support populations of resident, fluvial, and adfluvial Westslope Cutthroat Trout. The St. Joe and Coeur d’Alene rivers provide tremendously popular fisheries, primarily for Westslope Cutthroat Trout. The Department has conducted snorkel surveys on both rivers dating back to the early 1970s. For most of this time, Westslope Cutthroat Trout densities have been much lower in the Coeur d’Alene River than in the St. Joe River. This difference was attributed to a combination of noncompliance with the fishing regulations and degraded habitat. The shift to catch-and-release of all Westslope Cutthroat Trout in the drainage, along with increased enforcement, education, and habitat restoration have contributed to an increased abundance of Westslope Cutthroat Trout over time. The Coeur d’Alene River now supports Westslope Cutthroat Trout densities and size structure that are similar to the St. Joe River. The continued strength of these populations will largely depend on providing quality habitat. Warm summer temperatures and low stream flows are increasingly common. The Department will work directly and with collaborators to protect and enhance habitat during this planning period. This will include fish monitoring to support restoration efforts in Prichard Creek and seeking opportunities to protect areas of coldwater refugia through acquisitions and conservation easements in mainstem rivers. Angler use and general recreational use on the Coeur d’Alene and St. Joe rivers has increased, often resulting in concerns from anglers about crowding. During this planning period, we will work to better understand angler use, catch rates, and satisfaction on these rivers. Additionally, we will continue working to improve angler access on these rivers to keep up with growing use and demand. A float boat access on the Coeur d’Alene River near Kingston is sorely needed and opportunities will be explored.

The St. Maries River is a major tributary to the lower St. Joe River that has experienced intense land use, primarily timber harvest. During the last planning period, research was conducted to better understand Westslope Cutthroat Trout life history, population characteristics, and habitat factors. Multiple life histories were identified and fish were widespread and relatively abundant throughout the river and its tributaries. Warm summer temperatures in the mainstream St. Maries River forced fish to seek out thermal refuge, primarily in headwater reaches. Potential exists to both protect quality habitat and enhance suboptimal habitat in this watershed that may lead to more abundant Westslope Cutthroat Trout and improve angling. Habitat projects will be identified and pursued during this planning period. More regular surveys will also be conducted to better evaluate population trends and responses of Westslope Cutthroat Trout to management actions. Angler access to the river is also difficult in many reaches, and the Department will explore opportunities for improving access.

The South Fork Coeur d’Alene River is a major tributary to the Coeur d’Alene River that has been severely impaired by historical land use, particularly mining, in the Silver Valley. For decades, much of the river was fishless or nearly so. Over time, water quality has slowly improved and allowed fish to recolonize the river. Water quality issues and other habitat deficiencies still exist; however, a fishery has developed for Westslope Cutthroat Trout in recent years. Angler use and catch rates are thought to be well below levels on the North Fork Coeur d’Alene River, though potential exists for continued improvement. Additionally, Chinook Salmon from Coeur d’Alene Lake now spawn in the river providing another sign that habitat is improving. During the last planning period, property along the river near Smelterville was acquired to improve angler access, protect habitat from development, and provide opportunity for future restoration work. Fish monitoring in the mainstem river has rarely occurred in the past, thus making it difficult to evaluate the response of fish to changing habitat conditions. The Department will survey fish populations and establish a long-term monitoring protocol during this planning period. Angler access to the South Fork Coeur d'Alene is somewhat limited. Development of a float boat launch at Theatre Bridge near Smelterville will be completed during this planning period.

While fluvial Westslope Cutthroat Trout populations in the Spokane River drainage are generally in good health, abundance of adfluvial stocks in Coeur d'Alene Lake are severely depressed. Shoreline development, loss of quality spawning and rearing habitat in tributary streams, and predation from introduced species have all played a role in the decline of Westslope Cutthroat Trout. The Coeur d'Alene Tribe is engaged in efforts to restore adfluvial Westslope Cutthroat Trout populations in Lake and Benewah creeks. The Department has been supportive of these efforts, which entail habitat restoration in key tributaries, estimation of survival and sources of mortality for Westslope Cutthroat Trout, and Northern Pike suppression in Windy Bay and the southern end of Coeur d'Alene Lake.

Bull Trout in the drainage spawn almost entirely in headwater tributaries to the St. Joe River—primarily Medicine and Wisdom creeks. Based on existing telemetry work, virtually all of the Bull Trout in the drainage are adfluvial and migrate the length of the St. Joe River to Coeur d'Alene Lake. Redd count trends have declined over time and indicate that Bull Trout currently are at low density. Though Bull Trout have been functionally extirpated from the Coeur d'Alene River drainage, much of the North Fork of the Coeur d'Alene River and several tributaries were designated Critical Habitat by the USFWS in 2011, prompting questions about the feasibility of reestablishing Bull Trout in the Coeur d'Alene drainage and additional tributaries to the St. Joe River, such as Marble Creek. Prior to any such attempts, several questions related to availability of source stock, genetic suitability, logistics, and demographics will need to be addressed.

Because of low return to the creel and concerns with impacts to native Westslope Cutthroat Trout, hatchery trout have not been stocked into any streams in the Spokane River drainage since 2003. To help offset the loss of harvest opportunities in rivers and streams, ponds adjacent to the Coeur d'Alene and St. Joe rivers have been stocked with catchable Rainbow Trout. This strategy has allowed families and individuals to fish streams that are primarily catch-and-release, but still provide harvest opportunity nearby. In addition, new ponds have been built to support this type of fishing opportunity, such as Spicer Pond near St. Maries and Gene Day Pond near Osburn.

Largemouth Bass and Smallmouth Bass are well-established throughout the drainage's lowland lakes. Largemouth Bass have been present for many decades, mostly resulting from authorized introductions. In contrast, Smallmouth Bass were intentionally introduced into Hayden Lake in 1983 and have since been illegally introduced to numerous waters throughout the Spokane River drainage. They were illegally introduced into Coeur d'Alene Lake in the early-1990s and have since spread into most of the chain lakes, the lower Coeur d'Alene and St. Joe rivers, and the Spokane River. The drainage is noted for excellent bass fishing and fishing effort continues to increase due to its popularity. Past creel surveys and tagging studies indicate that few anglers harvest bass. As a result, despite liberal harvest opportunity in many lakes, exploitation is minimal and size structure is generally indicative of quality fisheries. Largemouth Bass exceeding eight pounds and Smallmouth Bass exceeding six pounds are occasionally caught in the Coeur d'Alene Lake system, which has become a very popular fishing tournament location. Growth of Smallmouth Bass appears to be faster when kokanee are abundant in Coeur d'Alene Lake. Monitoring and population studies will be conducted for bass during this planning period to guide management for these popular fisheries.

Illegal introductions of Northern Pike have established populations throughout the Coeur d'Alene Lake system, as well as Fernan, Hayden and Twin lakes. Population densities are generally low to moderate, which is likely related to high angler exploitation rates. The lower densities minimize intraspecific competition; thus, growth rates are typically fast. To minimize impacts of Northern Pike on native salmonids and other sport fish, harvest continues to be encouraged with no daily limit or size restrictions and by only allowing harvest fishing tournaments without live weigh-ins. This serves to maintain lower densities that promote fast growth, while also reducing the risk of illegal transport to other waters. Since 2015, the Department has collaborated with the Coeur d'Alene Tribe to suppress Northern Pike in Windy Bay. This project is designed to reduce predation on adfluvial Westslope Cutthroat Trout by Northern Pike during a period of high overlap near the mouth of Lake Creek. The project has effectively suppressed Northern Pike abundance, and Westslope Cutthroat Trout survival in Lake Creek has increased in response. In recent years, relatively little netting effort has been required to maintain a very low density of Northern Pike. The success in Windy Bay led to the expansion of Northern Pike suppression to the southern end of Coeur d'Alene Lake in 2019, which encompasses Benewah, Chatcolet, Round, and Hidden lakes. The objective of this project is to reduce predation on adfluvial Westslope Cutthroat Trout in Benewah Creek, along with adfluvial Cutthroat Trout and Bull Trout in the St. Joe drainage. To date, suppression of Northern Pike in this area has been more difficult than Windy Bay, but size structure has been reduced and an eventual decline in abundance is anticipated with continued netting. A response by native salmonids is not yet evident but will take more time to evaluate. Monitoring of other warmwater and coolwater species in Chatcolet and Benewah lakes has not shown any adverse effects of suppression to these populations. High fidelity to a specific bay or group of adjacent bays appears to be common among Northern Pike in Coeur d'Alene Lake. Additionally, telemetry work conducted by the Coeur d'Alene Tribe found that Northern Pike in the lower St. Joe and St. Maries rivers overwinter in the southern end of the lake. This makes these fish vulnerable to suppression netting without having to target them in the rivers. The high fidelity to localized areas of the lake greatly aids the localized suppression strategy being applied in Windy Bay and the southern end of the lake.

Though not actually connected by surface water, Hayden Lake is included in the Spokane River drainage. Historically, Hayden Lake was a popular fishery for native Westslope Cutthroat Trout from the early-1900s to 1950s. Declining catch rates through the 1970s prompted a number of efforts to improve the fishery. Restrictive regulations, introduction of mysid shrimp, an increase in Rainbow Trout and Cutthroat Trout stocking rates, and the use of various strains of Rainbow Trout were all attempted. Despite these efforts, trout catch rates continued to decline. Quality trout regulations were removed from Hayden Lake in 2011 because ongoing efforts to improve the fishery were not successful. In 1983, Smallmouth Bass were introduced into Hayden Lake to provide increased fishing opportunities in response to the declining trout populations. Although the introduction was successful in creating a popular littoral fishery, it also likely increased predation on fingerling trout. Northern Pike were illegally introduced in the early 1990s, further increasing predation potential. To improve the coldwater, troll-oriented fishery, early-spawning kokanee fry were introduced in 2011 and stocked at moderate densities since that time. Early-run kokanee were chosen because tributary habitat is limited and unlikely to support much natural recruitment, thus allowing kokanee density to be regulated by stocking. This has worked well, and kokanee have supported a tremendously popular fishery in Hayden Lake for larger average length kokanee (13-15 inches) than most other regional waters while offering moderate catch rates. Hayden Lake is a popular angling destination. Angling effort in 2010 was estimated at about 75,000 hours, but is thought to be much higher now. Warmwater and coolwater species dominated angler effort prior to kokanee introduction; however, kokanee appear to have increased overall angler effort substantially and have created an incredibly popular coldwater fishery component that likely generates far more effort than any other species. Kokanee stocking will continue in this planning period and, in years that early-kokanee are unavailable, sterile late-run kokanee will be substituted and evaluated.

There are an additional 20 lowland lakes in the Spokane River drainage. These lakes collectively support a tremendous amount of angling effort (in excess of 100,000 angler hours). All of these lakes are managed for either mixed fisheries or warmwater and coolwater fishes. Where coldwater fisheries do exist, they are generally supported by catchable trout stocking and/or fingerling kokanee or Westslope Cutthroat Trout stocking. Periodically evaluating return to creel of catchable Rainbow Trout in these lowland lakes has become a routine practice. This information is used to guide stocking decisions and maximize efficiency of hatchery products. Most of these lowland lakes have moderate or extensive shoreline development, and declining water quality and shoreline encroachment are serious problems. Continued shoreline development and eutrophication is likely to constrain future fishery management options.

Eight mountain lakes in the Bitterroot Range are stocked with trout fry on a rotating basis. Stocking densities have been adjusted to maximize fish growth at a given lake elevation. Only Westslope Cutthroat Trout and sterile Rainbow Trout fry are used to stock mountain lakes to reduce potential impacts to native fish populations downstream. Westslope Cutthroat Trout, Rainbow Trout, and Brook Trout are present in most of the stocked lakes, although several lakes are reserved for unique species, such as Grayling and Golden Trout.

Objectives and Strategies

1. Objective: Maintain quality Westslope Cutthroat Trout fisheries in the Coeur d'Alene and St. Joe rivers and their tributaries, defined as at least 25% of population exceeding 12 inches, as determined by snorkel surveys.

    Strategy: Monitor fish populations periodically through snorkel and/or electrofishing surveys to determine if Westslope Cutthroat Trout management objectives are being met.

    Strategy: Conduct angler surveys to evaluate angler use, fishery performance, and angler satisfaction.

    Strategy: Conduct tagging studies to assess angler use of Westslope Cutthroat Trout.

2. Objective: Maintain and enhance native fish populations.

    Strategy: Work with Avista mitigation program and Restoration Partnership to fund projects that protect and enhance Westslope Cutthroat Trout and Bull Trout habitat and population status in the Coeur d'Alene and St. Joe river drainages.

    Strategy: Work with IDWR and IWRB to maintain minimum stream flow water rights (St. Joe River, St. Maries River, Coeur d'Alene River, Hayden Creek, Wolf Lodge Creek and the Spokane River), and maintain adequate connectivity and instream flow in 2^{nd}-6^{th} order tributaries.

    Strategy: Use existing Westslope Cutthroat Trout habitat use research relative to Coeur d'Alene and St. Maries rivers to inform and implement habitat protection and enhancement projects funded by the Avista mitigation program or other entities.

Strategy: Periodically assess distribution of Rainbow Trout and hybrid trout in the Coeur d'Alene River drainage to monitor introgression risk. Similarly, evaluate genetic composition of Westslope Cutthroat Trout.

Strategy: Monitor the Bull Trout population trend in the St. Joe River using redd surveys, and work with the St. Joe Bull Trout Working Group to develop and implement conservation actions designed to prevent the extirpation and ultimately enhance this population.

3. Objective: Minimize negative impacts from introduced Northern Pike on native fish and sport fish populations.

   Strategy: Collaborate with the Coeur d'Alene Tribe on implementation and evaluation of localized suppression of Northern Pike in Windy Bay and the southern end of Coeur d'Alene Lake as a management approach to benefit Westslope Cutthroat Trout and Bull Trout.

4. Objective: Provide diverse angling opportunities in lowland lakes.

   Strategy: Conduct periodic surveys of fish populations to monitor population status and dynamics in relation to physical and biological conditions and fishing regulations.

   Strategy: Provide harvest-oriented opportunity for warmwater and coolwater species and stocked trout.

   Strategy: Stock tiger muskie and Channel Catfish in some lakes to diversity fisheries.

   Strategy: Maintain pelagic fishery in Hayden Lake by stocking kokanee. Adjust stocking density as appropriate. Evaluate performance of sterile late-run kokanee when they are stocked as a substitute for early-run kokanee.

   Strategy: Conduct periodic tagging studies to evaluate use and exploitation of catchable trout and use information to inform stocking practices.

8. Objective: Evaluate the status of kokanee and Chinook in Coeur d'Alene Lake.

   Strategy: Monitor kokanee abundance and size using standardized trawl surveys.

   Strategy: Continue to assess the Chinook population trend using redd surveys.

9. Objective: Maintain or enhance diverse fishing opportunity in Coeur d'Alene Lake and the lateral lakes.

   Strategy: Conduct a 12-month creel survey in the Coeur d'Alene Lake system to evaluate fishery performance, including angler satisfaction.

   Strategy: Conduct a study to better understand distribution and movement of bass in the Coeur d'Alene lateral lakes and potential impacts of tournament redistribution.

   Strategy: Evaluate Smallmouth Bass population dynamics and harvest rates.

10. Objective: Improve fishing and boating access on lakes and rivers.

Strategy: Work with the U.S. Forest Service, Avista, Shoshone County and other stakeholders to develop fishing and boating access areas on the Coeur d'Alene and St. Joe Rivers and their tributaries. Highest priorities include the Kingston and Smelterville areas in the Coeur d'Alene system and the Hoyt and Big Eddy areas on the St. Joe River.

Drainage: Spokane River

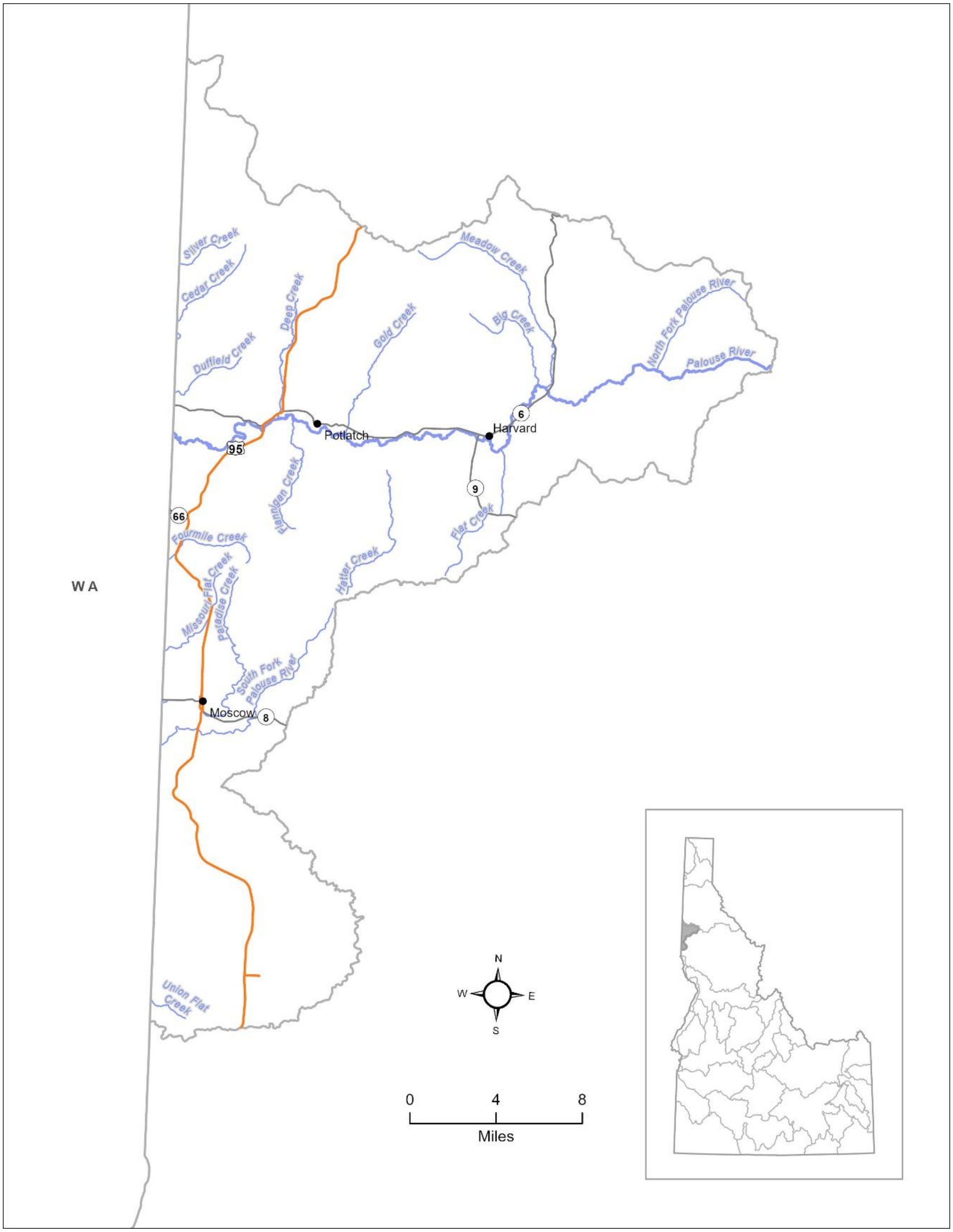
Waterbody	Species of Interest	Management Strategies		Additional Management Directions
		Primary	Secondary	
Coeur d'Alene Lake and minor tributaries (including Chatcolet, Benewah and Round lakes) (100 miles/31,540 acres)	Westslope Cutthroat Trout Bull Trout	Native	General	Recognize Coeur d'Alene Tribal management on a portion of Coeur d'Alene Lake. Work with the Tribe to achieve mutual fisheries management objectives in connecting waters. Continue to work with Avista through its Post Falls Fisheries Protection and Enhancement Plan and other entities to improve habitat for adfluvial Westslope Cutthroat Trout. No Bull Trout or Westslope Cutthroat Trout harvest allowed. Collaborate with St. Joe Bull Trout Working Group to identify and implement conservation actions for Bull Trout population at high risk of extirpation. Maintain restrictive regulations for Chinook Salmon to provide trophy fishery. Manage for a kokanee population that provides yield fishery for anglers and abundant prey resources for predators. Maintain fisheries for warmwater/coolwater species that are compatible with salmonid management objectives. Keep Northern Pike population at low density with unlimited harvest regulations. Collaborate with Coeur d'Alene Tribe on localized suppression of Northern Pike in Windy Bay and southern end of lake, including Chatcolet and Benewah lakes.
	Chinook Salmon	Wild/natural	Trophy	
	Kokanee	Wild/natural	Yield	
	Largemouth Bass Smallmouth Bass	Wild/natural	Quality	
	Panfish Bullhead	Wild/natural	Yield	
	Brook Trout Northern Pike	Incompatible		
Hayden Lake and tributaries (20 miles/3,800 acres)	Kokanee	Hatchery-supported	Quality	Provide kokanee fishery through stocking and maintain quality size structure by maintaining low density. Provide quality size Largemouth Bass and Black Crappie using regulations that adequately limit harvest. Provide diverse fishery and harvest opportunity for coldwater/coolwater/warmwater species. Keep Northern Pike population at low density using unlimited harvest regulations.
	Rainbow Trout	Hatchery-supported	Yield	
	Largemouth Bass Black Crappie	Wild/natural	Quality	
	Smallmouth Bass Panfish Bullhead Westslope Cutthroat Trout	Wild/natural	Yield	
	Northern Pike	Incompatible		

Upper and Lower Twin lakes (916 acres)	Rainbow Trout Kokanee Brook Trout Largemouth Bass Panfish Bullhead Northern Pike	Hatchery-supported Wild/natural Incompatible	Yield Yield	Stock catchable Rainbow Trout and kokanee fingerlings to provide harvest-oriented/yield fisheries. Maintain harvest-oriented fisheries for warmwater/coolwater species. Keep Northern Pike population at low density using unlimited harvest regulations.
Fernan Lake (420 acres)	Rainbow Trout Channel Catfish Largemouth Bass Panfish Bullhead Northern Pike	Hatchery-supported Wild/natural Incompatible	Yield Yield	Stock catchable Rainbow Trout to provide harvest-oriented fishery. Maintain harvest-oriented fisheries for warmwater/coolwater species. Continue stocking channel catfish to maintain diversity of the warmwater fishery in Fernan Lake. Keep Northern Pike population at low density using unlimited harvest regulations.
Hauser Lake (540 acres)	Tiger Muskie Rainbow Trout Channel Catfish Largemouth Bass Panfish Bullhead	Hatchery-supported Hatchery-supported Wild/natural	Trophy	Maintain tiger muskie stocking to diversity fishery and provide a unique trophy fishery. Maintain harvest-oriented fisheries for warmwater/coolwater species. Continue stocking Channel Catfish to maintain diversity of the warmwater fishery. Re-evaluate stocking of catchable Rainbow Trout using fall stocking when water temperatures are cooler.
Lateral Lakes (Anderson, Thompson, Blue, Swan, Medicine, Cave, Black, Bull Run, and Rose lakes) and slackwater portions of the Coeur d'Alene River (3,260 acres)	Largemouth Bass Smallmouth Bass Panfish Bullhead Northern Pike Channel Catfish	Wild/natural Wild/natural Incompatible Hatchery-supported	Yield/Quality/Trophy Yield Yield	Manage for trophy Largemouth Bass in lakes with year-round connection to mainstem river. In disconnected lakes, manage for yield fisheries. Maintain harvest-oriented fisheries for warmwater/coolwater species for species. Continue stocking channel catfish to maintain diversity of the warmwater fishery in Rose Lake. Keep Northern Pike population at low density using unlimited harvest regulations.

North and South Fork Coeur d'Alene River and tributaries and Little North Fork Coeur d'Alene River and tributaries (150+ miles)	Westslope Cutthroat Trout Mountain Whitefish Rainbow Trout Brook Trout Chinook Salmon	Native Native Incompatible Wild/natural	Quality General General	Maximize Westslope Cutthroat Trout catch rates and fish size by increasing densities through protective rules. Improve/protect native salmonid habitat through Avista mitigation program or other funding sources. Maximize harvest opportunities for Rainbow Trout and Brook Trout to reduce competition and hybridization with Cutthroat Trout. Provide harvest opportunity for stocked Rainbow Trout in catch-out ponds located near traditional harvest areas. Maintain harvest fishing opportunity for Mountain Whitefish.
St. Joe River and tributaries above slackwater (210+ miles)	Westslope Cutthroat Trout Bull Trout Mountain Whitefish Rainbow Trout Brook Trout Chinook Salmon	Native Native Native Incompatible Wild/natural	Quality General General General	Maximize Westslope Trout catch rates and fish size by increasing densities through protective rules. Investigate distribution, status, critical habitat needs and survival during different stages of Bull Trout life cycle to better guide conservation efforts. Work with St. Joe Bull Trout Working Group to identify and implement conservation actions for population at high risk of extirpation. Work with Avista mitigation program and other entities to improve/protect habitat for native salmonids. Maximize harvest opportunities for Rainbow Trout and Brook Trout to reduce competition and hybridization with Westslope Cutthroat Trout and Bull Trout. Maintain harvest fishing opportunity for Mountain Whitefish.
Slackwater area of St. Joe River (14 miles)	Westslope Cutthroat Trout Bull Trout Largemouth Bass Smallmouth Bass Panfish Northern Pike	Native Native Wild/natural Incompatible	Quality General Yield	Recognize Coeur d'Alene Tribal management within the slackwater portion of the St. Joe River. Collaborate to meet Tribal and state management objectives in connecting waters. Improve/protect native salmonid habitat through Avista mitigation program or other funding sources. Provide liberal harvest opportunity for warmwater fish and keep Northern Pike population at low density using unlimited harvest regulations.

St. Maries River and tributaries above slackwater (70 miles)	Westslope Cutthroat Trout Mountain Whitefish Rainbow Trout Brook Trout	Native Native Incompatible	Quality General	Attempt to provide limited Westslope Cutthroat Trout harvest opportunity while maintaining quality size structure and densities. Improve/protect native salmonid habitat through Avista mitigation program or other funding sources. Maximize Rainbow Trout and Brook Trout harvest to reduce competition and hybridization with Westslope Cutthroat Trout. Provide harvest opportunity for stocked Rainbow Trout in catch-out ponds located near traditional harvest areas. Maintain harvest fishing opportunity for Mountain Whitefish.
Spokane River (Coeur d'Alene Lake to Post Falls Dam) (10 miles)	Westslope Cutthroat Trout Bull Trout Largemouth Bass Smallmouth Bass Panfish Bullhead Northern Pike	Native Wild/natural Incompatible	General Yield	No harvest for Westslope Cutthroat Trout and Bull trout to help conserve these populations. Maintain harvest-oriented fishing opportunity for warmwater/coolwater species. Maintain Northern Pike population at low density using unlimited harvest regulations.
Spokane River (Post Falls Dam downstream to state line) (6 miles)	Rainbow Trout Brown Trout	Wild/natural	General	Work with Avista to implement optimal flows and enhance fish habitat that has been impacts by dam operations. Support activities that maximize coldwater habitat during summer to benefit salmonids.

5. Palouse River Drainage



Overview

The Palouse River drains from a timbered, mountainous area with elevations up to 5,000 feet through rolling, agricultural hills down to an elevation of about 2,500 feet at the Idaho-Washington border. The upper reaches of the Palouse drainage have been extensively roaded, logged, and dredge mined, while the lower areas have been intensively farmed. The only remaining trout habitat in the drainage is located near the headwaters. Increasing fish populations in flowing water will require substantial stream flow restoration activities and improvements in riparian habitat that will increase summer flows, reduce summer water temperatures, and reduce sediment delivery.

Objectives and Strategies

1. Objective: Increase fishing opportunity in the Palouse River drainage

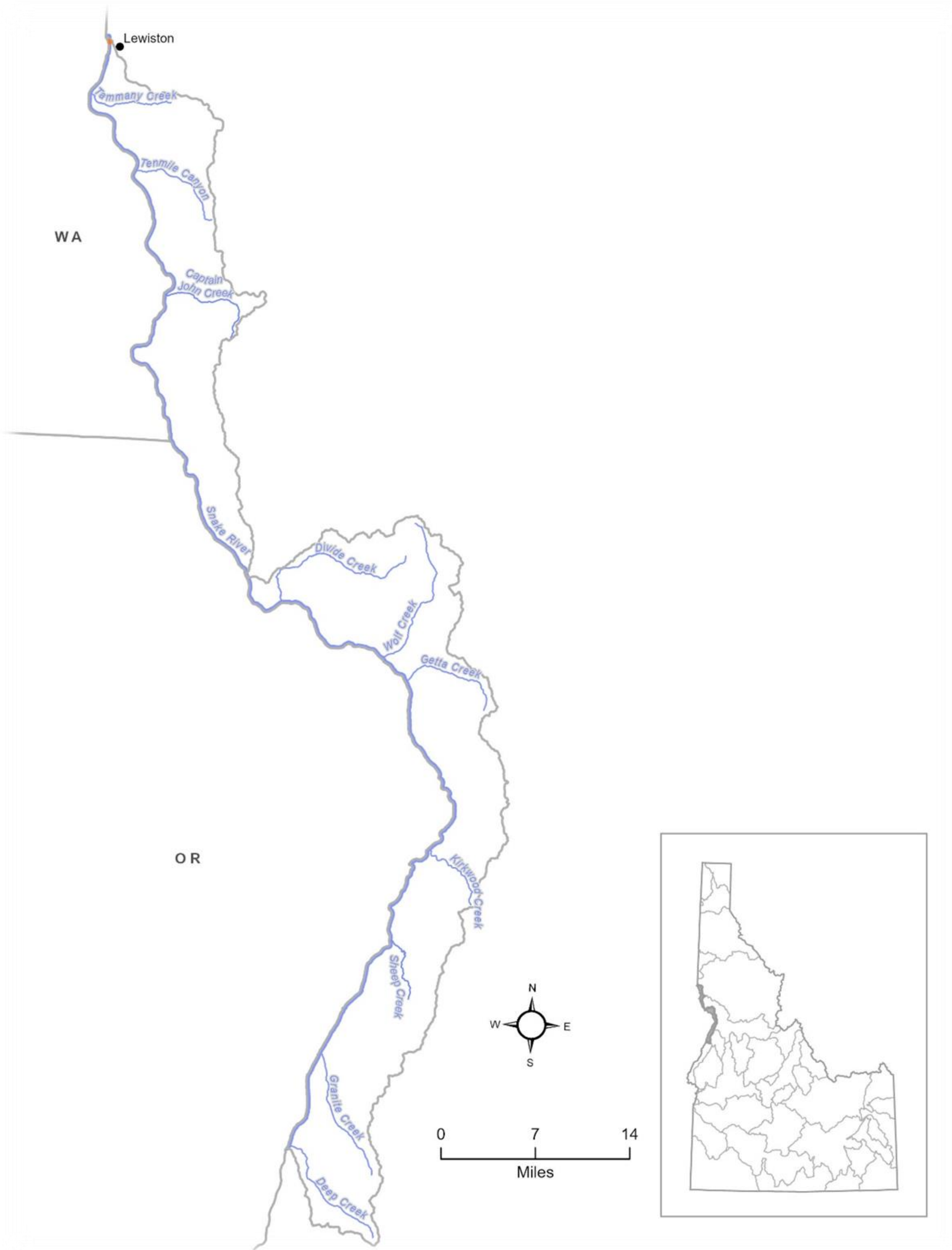
   Strategy: Work with public and private landowners to identify areas to develop off-stream reservoir/ponds that serve as community fishing waters, that will not impact stream flow or increase water temperature.

   Strategy: Seek opportunities to provide community fishing ponds near Moscow, Potlatch, and Genesee.

   Strategy: Investigate the potential to create new fishing opportunities in Palouse River and its tributaries.

Waterbody	Species of Interest	Management Strategies		Additional Management Directions
		Primary	Secondary	
Palouse River from Washington border to headwaters, including tributaries (135 miles)	Rainbow Trout Brook Trout Cutthroat Trout	Wild/natural Native or Wild/Natural	General	Provide fishing opportunities for naturally producing Rainbow Trout and Brook Trout. Investigate the abundance and distribution of Cutthroat Trout in Little Sand Creek and evaluate whether this population was introduced or native. Based on findings, assess whether actions should be taken to protect this population of fish.
Palouse River Pond (1 acre)	Rainbow Trout	Hatchery-supported	General	Maintain public access and stock catchable Rainbow Trout to provide fishing and harvest opportunities during peak use times.
Hordemann Pond (1 acre)	Rainbow Trout	Hatchery-supported	General	Stock with catchable Rainbow Trout when water quality is favorable to fish survival to provide fishing and harvest opportunities. Investigate strategies to lengthen the duration of this fishery.

6. Snake River Drainage – Idaho/Washington Border to Hells Canyon Dam



Overview

The portion of the Snake River from the Idaho-Washington border at Lewiston upstream to Hells Canyon Dam is 108 miles in length. Major tributaries which enter into the Snake River within this reach include the Salmon, Grande Ronde, and Imnaha rivers. Many smaller tributaries also occur that drain from high forested areas through break lands to arid bottoms before entering the river. Most of these tributaries have intermittent flow; however, about a dozen streams on the Idaho side have large enough watersheds to provide perennial flow. Water temperatures in these tributaries are cooler than the main river due to their rapid descent from higher elevation timbered landscapes and support salmonids. Some of the notable streams include Captain John, Divide, Kirkwood, Sheep, and Granite creeks. Lower Granite Dam, located about 32 river miles west of Lewiston in Washington, impounds the Snake River to about five miles upstream of the towns of Lewiston and Clarkston, making the area an inland seaport.

This reach of the Snake River is one of the more popular fishing waters in the region and recreational access falls under multiple categories. The downstream 36 miles, from the Idaho-Washington border to the Washington-Oregon border has no limited access designation. The 72 miles of river from the Washington-Oregon border to Hells Canyon Dam flows through the deepest gorge in the United States in the Hells Canyon National Recreation Area. Forty miles of the river from the Washington-Oregon border to Big Canyon Creek is designated a "scenic" river under the Wild and Scenic Rivers System, and the 32 miles upstream of Big Canyon Creek is classified as "wild." Both the Idaho and Oregon sides of the river in the upper portions of the recreation area are bounded by wilderness.

Operation of Hells Canyon dam influences river characteristics of the Snake River in this reach. Power peaking operations at Hells Canyon dam can cause river water levels to fluctuate by several feet on a daily basis during certain times of the year. From mid-October through most of December, water levels are held steady to increase fall Chinook Salmon spawning and egg incubation success. The upstream reservoirs act as settling basins greatly reducing downstream sediment transport into this reach. Additionally, the upriver reservoir complex and dam operations affect water quality conditions such as total dissolved gases, dissolved oxygen, methyl mercury, and the temperature regime. Legislation passed by Congress in 1989 prohibits the FERC from issuing any licenses to develop new mainstem hydropower projects in the Snake River. Congressional intent also includes federally authorized projects.

The Snake River upstream of Lewiston is a migration corridor for adult and juvenile anadromous fish as they migrate to and from the Salmon, Imnaha, and Grande Ronde rivers. This includes spring, summer, and fall Chinook Salmon, Sockeye Salmon, Pacific Lamprey, steelhead, and Coho Salmon. Fall Chinook Salmon also spawn in the mainstem of the Snake River. Most of the minor Snake River tributaries with perennial flow are suitable for steelhead spawning and rearing; but due to their steep gradient, fish distribution is often limited to the lower reaches. Fisheries in this drainage will be managed to protect wild stocks and efforts will occur with collaborators to improve water quality and habitat conditions.

While considering and minimizing effects to native and wild/natural stocks, the fisheries in the mainstem Snake River from the Idaho/Washington border to Hells Canyon Dam will be managed for harvest of hatchery steelhead, fall Chinook Salmon, and Coho Salmon. Harvest opportunities will also occur for spring Chinook Salmon upstream of Dug Bar. Consumptive harvest of native or wild/natural steelhead is not expected during the next six years. Due to the success of the fall Chinook Salmon program, targeted fisheries on wild/natural fish will be provided while ensuring ESA-take limits aren't exceeded.

This drainage contains one of two White Sturgeon reaches in the Snake River designated as Wild Core, which are supported by natural recruitment. Maintaining or increasing sturgeon population status in the reach is of high management importance. This White Sturgeon population is selfsupporting although recent monitoring shows that recruitment has become more intermittent. In the early 1990s, recruitment was documented to occur annually whereas data since 2014 shows successful recruitment has only occurred during years with above average spring flows. The number of sturgeon > 92 cm has increased significantly since harvest opportunities ended in 1971 although the abundance of fish < 92 cm has declined. The White Sturgeon sport fishery is managed with catch-and-release regulations because of high angler demand and the population dynamics of slow growing, long lived fish. Tribal treaty harvest and illegal non-treaty poaching are not well documented. The NPT has a consumption moratorium on White Sturgeon due to the extremely high mercury levels documented in their flesh. As such, it is believed that Tribal Harvest is not significant.

Non-native resident fish introductions in this drainage have provided angling opportunities and conservation concerns for native species in the Snake River. Smallmouth bass were first introduced in the early 19th century and have since become well established. The Snake River contains an abundant Smallmouth Bass population with recent work by collaborators documenting significant impacts of bass predation on outmigrating fall Chinook salmon. Walleye have recently been documented migrating past Lower Granite Dam and appear to now be established in the drainage. Similar to bass, Walleye have been documented to negatively impact juvenile salmonids in the Columbia River. Both Smallmouth Bass and Walleye will be managed with the Incompatible management strategy to encourage harvest and reduce impact on native species.

Other resident fish providing angling opportunity within the drainage include Rainbow Trout, Bull Trout, and Cutthroat trout. The Rainbow Trout fishery in the mainstem Snake River is primarily supported by residualized hatchery steelhead smolts. The highest densities of Rainbow Trout are found in upstream of the Salmon River near cold-water tributary mouths. Tributaries with perennial flow support populations of resident Rainbow Trout. Cutthroat Trout are known to occur in the Granite Creek Watershed; however, it is unknown whether these fish are native or introduced. Bull Trout have been documented in Sheep and Granite creeks although a spawning and rearing population has not been verified. The Snake River provides important over-winter habitat for fluvial Bull Trout. The majority of fluvial Bull Trout overwintering in the Snake River spawn in the Imnaha and Grande Ronde rivers; however, some individuals overwintering in the reach have been documented on spawning migrations in the Salmon River.

High Mountain Lakes are found in the headwaters of Bernard, Sheep, and Granite creeks within the boundary of the Hells Canyon Wilderness. There are approximately 48 lakes totaling 264 acres that will be managed following the principles described in the High Mountain Lake Management section.

Objectives and Strategies

1. Objective: Maintain and improve fish habitat and water quality within the Snake River watershed from the ID/WA border upstream to Hells Canyon Dam.

   Strategy: Continue working with land management agencies, County Soil and Water Conservation Districts, and private landowners to inform, educate and assist with land management planning for protecting fish habitat and water quality. Emphasize the need for instream flow and riparian habitat protection and enhancement. Provide information about impacts that land use activities are having on natural production areas.

Strategy: Minimize impacts or seek mitigation for land management activities that degrade the quality of natural production areas.

Strategy: Develop and work to obtain flow regimes in the Snake River that improves survival of juvenile and adult anadromous fish and recruitment of White Sturgeon. Coordinate with IPC, Oregon Department of Fish and Wildlife (ODFW), and other parties in mitigating stranding of anadromous out-migrants in river margins during load following operations. Continue to develop smolt migration timing and relative abundance indices to address flow augmentation and water storage management.

Strategy: Maintain involvement with FERC relicensing for the Hells Canyon Dam Complex.

2. Objective: Provide fishing opportunities for salmon and steelhead that balances opportunities for different angler types.

Strategy: Coordinate with NPT, ODFW, and WDFW on stocking of hatchery salmon and steelhead smolts to provide harvest opportunities for returning adults in a manner acceptable to tribal and nontribal anglers.

Strategy: Evaluate whether season and rule changes can be made to increase overall angler satisfaction for both salmon and steelhead anglers. Consider how application of e-tagging can be used to increase angler satisfaction. Coordinate with ODFW and WDFW for consistency in seasons and rules in the Snake River.

Strategy: Evaluate how new fall Chinook Salmon release strategies influence fall Chinook Salmon fisheries.

3. Objective: Maintain/improve existing native and wild/natural populations of Chinook Salmon and steelhead.

Strategy: Monitor wild steelhead and Chinook Salmon populations in priority drainages.

Strategy: Monitor sport fisheries to ensure mortalities on native and wild/natural salmon and steelhead populations occur within allowed ESA impact rates.

Strategy: Work with NOAA, Tribes, OR and WA to evaluate how moving fall Chinook Salmon hatchery smolt releases out of the Snake River upstream of the Salmon River influences wild/natural fall Chinook Salmon production and percent hatchery spawners in this reach.

Strategy: Work with cooperators on strategies to reduce the spread and abundance of Smallmouth Bass and Walleye.

4 Objective: Enhance resident game fish production below Hells Canyon Dam.

Strategy: Continue to work with the White Sturgeon Technical Advisory Committee to assess the sturgeon population in the Snake River from Lower Granite Dam to Hells Canyon Dam. Coordinate work with IPC to assess recruitment success and factors that may be influencing this success. Work with IPC to complete a Population Viability Analysis (by 2027) to evaluate the long-term trend in sturgeon abundance.

Strategy: Work with Idaho Power, WDFW, ODFW, and NPT to complete trap and haul pilot studies (juveniles downstream/subadults and adults upstream) to determine whether translocations can be effective tools to help to achieve and maintain population objectives specified in the Snake River White Sturgeon Management Plan.

5 Objective: Manage fisheries in mountain lakes to provide quality fishing experience and to maintain a long-term probability of persistence of amphibians.

Strategy: Evaluate and adjust stocking densities in HMLs to account for differences in lake productivity as well as angler effort and preferences.

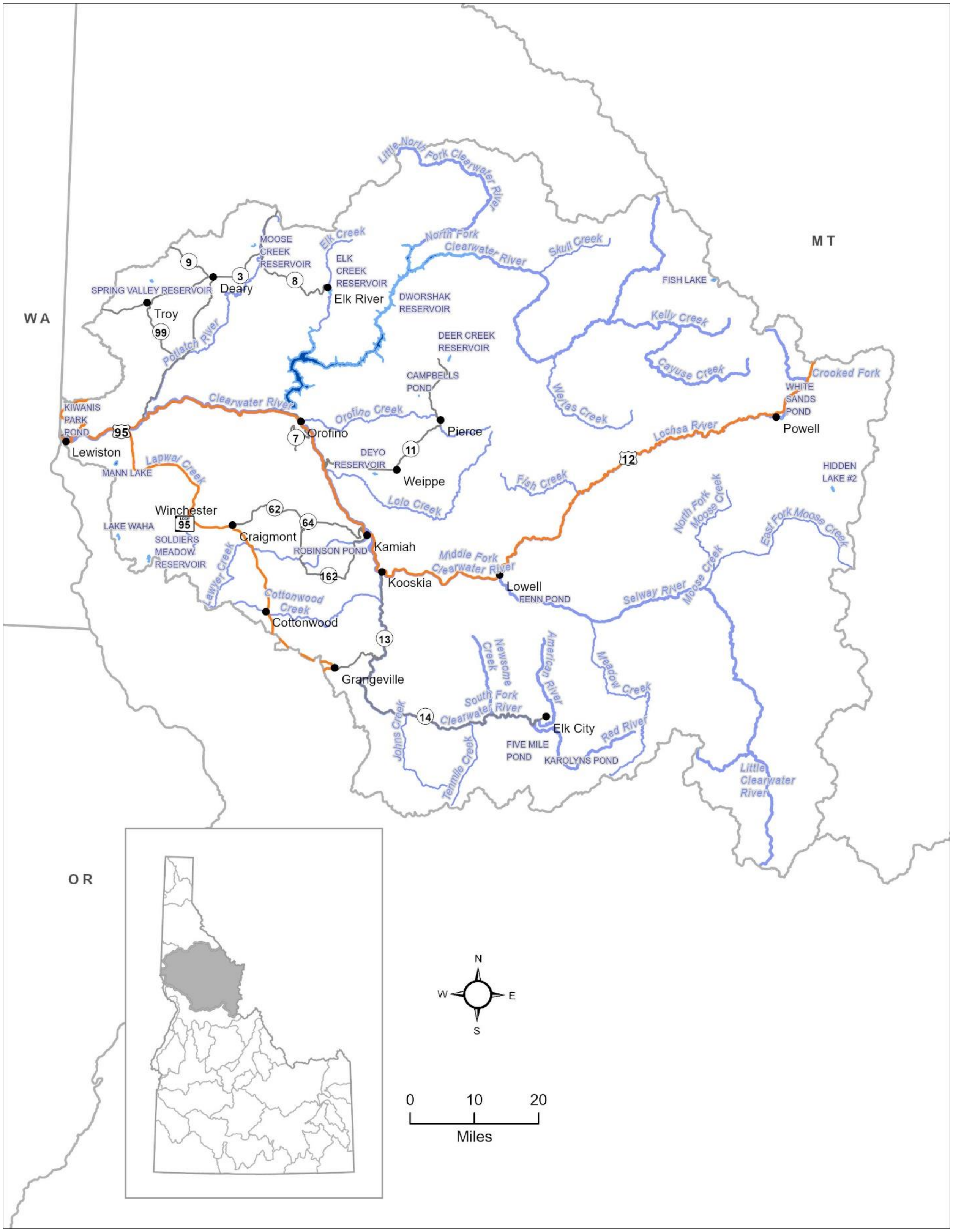
Strategy: Finalize the long-term high mountain lake study to evaluate the impacts the current stocking program has on long term probability of persistence of amphibians. Utilize results from the study to maintain suitable levels of fishless alpine lake habitat to maintain amphibian populations.

Strategy: Develop a prioritized list of HMLs for Brook Trout removal based on the potential benefit to native salmonids and the potential for success.

Strategy: Utilize sterile fish in HMLs if genetic introgression of native stocks is a concern.

Drainage: Snake River and Minor Tributaries - Idaho/Washington Border to Hells Canyon Dam				
		Management Strategies		
Water	**Species of Interest**	**Primary**	**Secondary**	**Additional Management Directions**
Snake River from the Idaho/ Washington border to Hells Canyon Dam (110 miles)	Steelhead	Native and Wild/natural	Anadromous	Manage impacts on juvenile and adult steelhead to stay within allowable ESA impacts. Monitor parr abundance where feasible.
	Steelhead	Hatchery-supported	Anadromous	Balance fall and spring broodstock collections at the Hells Canyon trap to ensure broodstock goals are met but promote genetics for late arrival timing to the trap.
	Spring/summer Chinook Salmon Fall Chinook Salmon Coho Salmon	Native and Wild/natural	Anadromous	Manage impacts on juvenile and adult salmon to stay within allowable ESA impacts.
	Spring Chinook Salmon Fall Chinook Salmon Coho Salmon	Hatchery-supported	Anadromous	Coordinate spring/fall hatchery Chinook Salmon and Coho Salmon releases, run size estimates, harvest share, and wild fish impacts with the NPT, Oregon and Washington.
	Hatchery Rainbow Trout	Hatchery-supported	General	Provide harvest opportunities for Rainbow Trout. Work with WDFS and ODFW to develop consistent limits.
	Smallmouth Bass	Incompatible		Encourage harvest to reduce abundance and predation on native fishes.
	Walleye	Incompatible		Encourage harvest to reduce abundance and predation on native fishes. Work with cooperators on strategies to reduce spread.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance. Work with IPC to support monitoring program.
	White Sturgeon	Native	Conservation	Follow guidance of White Sturgeon Management Plan.
Perennial Tributaries (475 miles)	Steelhead	Wild/natural	Anadromous	Manage for natural production of wild steelhead
	Rainbow Trout	Wild/natural	General	Provide harvest opportunities for Rainbow Trout while maintaining or improving abundance.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance.

7. Clearwater River Drainage



Overview

The Clearwater River originates in the Bitterroot Mountain range on the Idaho-Montana border and flows westerly across the state to Lewiston where it joins the Snake River. The river drains approximately 9,570 square miles and ranges in elevation from nearly 9,000' above mean sea level (msl) to 725' msl. There are three major tributaries to the Clearwater River including the North Fork, the Middle Fork, which originates at the confluence of the Lochsa and Selway rivers, and the South Fork. Mean annual discharge for the drainage has averaged about 15,000 cfs with instantaneous flows ranging from 500 to 141,000 cfs.

The eastern half of the drainage is mainly national forest land, while the western half is largely private land including corporate timber holdings. There is also a scattering of state land in this area. The Nez Perce Indian Reservation composes 13% of the drainage from approximately the South Fork Clearwater River to near Lewiston. Sixty-three miles of the main Clearwater and 11 miles of the South Fork are included within the boundary of the Reservation. The entire drainage is part of the Native American ceded lands.

Approximately 24% of the Clearwater Drainage is located within federally designated wilderness including most of the Selway, as well as portions of the Lochsa and South Fork Clearwater drainages. The Middle Fork Clearwater, Lochsa, and Selway rivers are part of the National Wild and Scenic Rivers System. There are some roadless areas in the Clearwater drainage that are not wilderness. Much of this unaltered area is found in the upper North Fork Clearwater River near Kelly and Weitas creeks and in the lower Selway and upper Lochsa drainages.

Fishery habitat ranges from pristine to severely degraded. Habitat located in the eastern half of the drainage is commonly in excellent condition as it is dominated by federal land ownership with large wilderness and roadless areas. The western half of the drainage is dominated by private land ownership and that is where more degraded habitat occurs due to past and current land use practices such as road construction, agriculture, silviculture, grazing, and/or mining. The South Fork Clearwater drainage is an exception where despite a preponderance of federal land ownership, this watershed has been negatively impacted by past dredge and placer mining, road construction, logging, and livestock grazing within the riparian corridors. These activities have contributed to a loss of critical riparian habitat in certain areas and reduced fishery potential. Recreational dredge mining is still common in the South Fork Clearwater.

The Clearwater Basin receives more moisture as rain and less as snow than historically due to climate change. This change is resulting in more rain on snow events that are often associated with significant erosion issues. Additionally, this change is resulting in earlier and flashier spring runoff and decreased summer flows. These changes in the hydrograph have implications for fishery management.

Dam construction has greatly influenced anadromous fisheries in the Clearwater River basin. Lewiston Dam was constructed near the mouth of the Clearwater River in 1927 and was responsible for extirpating the entire run of spring and summer Chinook Salmon into the basin. The dam was removed in 1973, and spring Chinook Salmon have been reintroduced from out-of-basin stocks. Harpster Dam was constructed on the South Fork Clearwater River in 1910 and blocked upstream migrations of all fish. This dam was removed in 1963 and steelhead were subsequently reintroduced from Dworshak stock. One of the most productive steelhead rivers in the state, the North Fork Clearwater River, was impounded and eliminated from natural production of anadromous fish by the construction of Dworshak Dam, which remains in place today.

Four anadromous hatcheries are operated in the Clearwater River drainage. Dworshak National Fish Hatchery and Clearwater Fish Hatchery are located near the mouth of the North Fork Clearwater River. Kooskia National Fish Hatchery is located at the mouth of Clear Creek, and the Nez Perce Tribal Fish Hatchery is located along the Clearwater River about 20 miles upstream from its mouth. All four hatcheries work together to release salmon and steelhead in agreed upon areas to provide fisheries for tribal and non-tribal anglers or supplement wild populations. Clearwater Fish Hatchery raises spring Chinook Salmon and steelhead; Dworshak Hatchery raises spring Chinook Salmon, Coho Salmon, and steelhead; Kooskia Hatchery raises spring Chinook Salmon and spawns and releases Coho Salmon; and the Nez Perce Tribal Hatchery raises spring and fall Chinook Salmon. The Clearwater Fish Hatchery also holds and distributes catchable rainbows to provide additional fishing opportunities across the Clearwater Region.

Management actions for native steelhead in the Clearwater drainage will emphasize maintaining native steelhead refuge areas where no hatchery releases and fisheries that target adult steelhead occur. These native steelhead refuge areas include the Lochsa and Selway rivers and tributaries of the lower Clearwater River excluding Lolo Creek. Maintaining good habitat and restoring degraded habitat will be an emphasis in these native steelhead areas. The Clearwater, South Fork Clearwater, North Fork Clearwater (downstream of Dworshak Dam), and Middle Fork Clearwater (downstream of Clear Creek) rivers will continue to be managed for exploitation of hatchery steelhead while ensuring impacts on native and wild/natural fish do not exceed NOAA approved take.

Wild/natural spawning spring and fall Chinook Salmon in the Clearwater drainage cannot be genetically differentiated from hatchery fish due to widespread hatchery stocking practices and introgression in spawning areas. Stocking currently occurs in the Lochsa, Selway, Middle Fork Clearwater, South Fork Clearwater, North Fork Clearwater, and Clearwater rivers. Harvest fisheries on hatchery spring/fall Chinook Salmon will be provided in the mainstem rivers where stocking occurs although an informal agreement with the NPT has been honored in the past to not provide sport fishing opportunities for salmon in the Selway River. Due to the success of fall Chinook Salmon restoration efforts spearheaded by the NPT, a targeted fishery on wild/natural fish is permitted if impacts are managed within NOAA approved impact rates. Because spring Chinook Salmon in the Clearwater drainage are not ESA listed, no regulatory mechanism exists to prevent harvest fisheries on wild/natural spring Chinook Salmon. Discussions with the Nez Perce Tribe should be had to determine where these opportunities exist.

The Nez Perce Tribe’s Coho Salmon hatchery program has resulted in sufficient returns to meet broodstock needs and provide Tribal and non-Tribal fisheries since 2019. When returns are large enough, harvest fisheries will continue to be provided for Coho Salmon in the Clearwater, Middle Fork Clearwater, North Fork Clearwater (below Dworshak Dam), and the South Fork Clearwater rivers.

Objectives for natural escapement have been developed for steelhead, Chinook Salmon, and Coho Salmon. Populations will be monitored to assess their status relative to escapement goals and habitat restoration.

In the Clearwater Basin, efforts to improve habitat for anadromous fish have been extensive. Since 1996, 22 different restoration partners have implemented over 200 projects at a cost of over $36 million. The Potlatch River watershed is an emphasis area within the Clearwater drainage. More than 90 restoration projects have occurred within this watershed at a cost of more than $33 million. Efforts are ongoing to restore stream reaches that have been altered due to past and current agricultural, logging, grazing, and human development practices. A major emphasis in the lower watershed is to increase summer low flows whereas in the upper watershed the major emphasis is to increase stream complexity and reduce stream temperature.

The Nez Perce Tribe initiated a Pacific Lamprey translocation program in 2006 where fish were collected at the Columbia River dams, overwintered at the Nez Perce Tribal Hatchery, and then released into select areas of the Clearwater basin in the spring. Since first initiating this program, the number of translocated fish have increased steadily from 178 fish in 2006 to 3,646 fish in 2024. Initially, all lamprey were overwintered and the Nez Perce Tribal Hatchery and then released into specific streams. Starting in 2018, some lamprey were directly released into the mainstem Clearwater River without overwintering them at the hatchery which allowed them to seek out spawning areas on their own. Now the majority of lamprey are directly released into waters and not overwintered at the hatchery. This program has been a tremendous success as lamprey ammocoetes are becoming more common, especially in streams were they were directly released. Telemetry studies have shown direct release fish are spreading throughout the Clearwater drainage.

A myriad of resident fishes occur within the Clearwater River drainage. In the free-flowing rivers and streams, important salmonid species include Westslope Cutthroat Trout, Rainbow Trout, Bull Trout, and Mountain Whitefish. Brook Trout also occur in many streams, but management strategies will continue to promote reductions in their abundance and distribution. Smallmouth Bass are also abundant in the Clearwater River upstream of the North Fork Clearwater River. Recent work by collaborators have documented that Smallmouth Bass predation on outmigrating salmon smolts can be significant. As such, these fish will be managed with the Incompatible management strategy to encourage harvest and reduce impact on native species. The presence of Walleye have not been verified in the Clearwater drainage; however, if Walleye do spread into this watershed, they will also be managed with the Incompatible management strategy due to the potential impact they could have on anadromous fisheries.

Dworshak Reservoir is the largest impoundment in the drainage (16,970 acres). Kokanee and Smallmouth Bass provide popular fisheries in this Reservoir. A nutrient restoration program for Dworshak reservoir was agreed upon with the U.S. Corps of Engineers in 2017. Nutrient additions have proven effective at benefiting water quality and the abundance and size of both kokanee and Smallmouth Bass. Maintaining this nutrient enhancement program will continue to be priority for the Department.

There are approximately 710 documented mountain lakes in the Clearwater River drainage with only 11 of them believed to have historically had fish. Of the 699 historically fishless lakes, 453 (65%) remain fishless. Introduced fish occur in 245 of these historically fishless lakes with 86 of them being currently maintained with periodic stocking. These lakes will be managed following the principles described in the High Mountain Lake Management section and utilize findings from the long-term high mountain lake monitoring evaluation recently completed by the region.

There are nine lowland lakes in the area, with only one being a natural lake. These lakes are managed mostly as sterile put-and-take Rainbow Trout fisheries. Warmwater species including Largemouth Bass, Smallmouth Bass, Black Crappie, Bluegill and Bullheads also provide popular fisheries in these lakes. There are a multitude of private farm ponds for which Department personnel provide consultation on a regular basis.

Objectives and Strategies

1. Objective: Maintain and improve fish habitat and water quality within the Clearwater drainage.

   Strategy: Implement stream flow augmentation and habitat improvement projects for steelhead in the lower Clearwater drainage with emphasis in the Potlatch River watershed using PCSRF, BPA, and other available funds. Work with other implementing agencies, organizations, and landowners to focus habitat improvement projects that address limiting factors and provide population level benefits to wild steelhead. Efforts from all parties should focus stream flow and habitat improvement efforts within prioritized (Tier 1) tributaries as described in the Potlatch River Watershed Management Plan.

   Strategy: Continue efforts to increase the volume of Spring Valley Reservoir and use this additional volume to augment streamflow in Spring Valley Creek and Little Bear Creek to benefit steelhead. Explore the use of other reservoirs to augment summer stream flow to improve steelhead habitat.

   Strategy: Continue to monitor wild steelhead distribution, abundance, production and productivity to evaluate trends in their overall status and to directly evaluate the effectiveness of stream flow augmentation and other habitat improvement projects.

   Strategy: Continue working with partners to inform, educate and assist with land management planning for protecting fish habitat and water quality. Emphasize the need for stream flow, riparian, and instream habitat protection and enhancement. Encourage containment of sediment production areas, including old mining sites. Provide information about impacts that land use activities are having on natural production areas.

   Strategy: Continue working with IDWR, the Idaho Water board, and water right applicants to ensure adequate water is maintained for fish. Emphasis should be placed on systems with minimum stream flow water rights.

   Strategy: Implement strategies such as drawdown to control nuisance aquatic macrophyte growth in regional lowland lakes where it interferes with recreational fishing.

2. Objective: Improve and increase fishing and boating access.

   Strategy: Develop a management agreement with the NPT that describes how Mann Lake and Soldiers Meadow Reservoir will be managed in accordance with the BOR's Environmental Assessment and Finding of No Significant Impact for the Lewiston Orchards Project Water Exchange and Title Transfer. It should be noted that the EA specifies that public access and recreation would be consistent with current opportunities after the property is transferred to the Bureau of Indian Affairs.

   Strategy: Acquire additional public fishing access sites in the lower South Fork Clearwater River.

   Strategy: Upgrade and maintain Department owned and operated dams to minimize public safety risks and benefit fisheries, with a priority on Winchester Lake and Elk Creek Reservoir dams.

Strategy: Explore opportunities to improve or expand shore fishing access along the Clearwater River near Lewiston.

Strategy: Increase Americans with Disabilities Act (ADA) compatible access to salmon and steelhead fisheries.

Strategy: Work with cooperative management partners to improve or expand shore fishing opportunities on Mann Lake.

Strategy: Ensure infrastructure around the Spring Valley Reservoir is upgraded to accommodate higher water levels and greater fluctuations.

Strategy: Explore opportunities to increase non-motorized boat access in the Middle Fork Clearwater and lower Selway rivers.

3. Objective: Provide fishing opportunities for hatchery salmon and steelhead that balances the desires and interests of different angler types and communities that benefit from these fisheries.

   Strategy: Coordinate with NPT and USFWS on stocking of hatchery salmon and steelhead smolts to provide harvest opportunities for returning adults in a manner acceptable to tribal and nontribal anglers.

   Strategy: Continue to work with the NPT on a long-term agreement for salmon and steelhead to address how many and where hatchery salmon and steelhead will be released to best meet Tribal and non-Tribal fisheries and how to structure fisheries in a manner that will enhance both parties' ability to meet their fisheries goals.

   Strategy: Work with the public to develop and implement management strategies that will maximize angler satisfaction and distribute harvest amongst different communities for salmon and steelhead fisheries.

   Strategy: Monitor the role, impact, and contribution of commercial guiding relative to anadromous fishery management objectives.

   Strategy: Explore strategies to expand salmon and steelhead fishing opportunities especially with the ability for anglers to use electronic tagging to validate harvested fish.

4. Objective: Maintain diverse angling opportunities for resident fish in rivers, streams and lowland lakes to meet angler demand.

   Strategy: Provide quality and harvest fishing opportunities for Cutthroat Trout and Rainbow Trout in rivers and streams.

   Strategy: Understand angler desires for Mountain Whitefish.

   Strategy: Continue to promote management strategies that will reduce the abundance and distribution of Brook Trout with the exception of Deer Creek and Elk Creek reservoirs.

   Strategy: Monitor the North Fork Clearwater, Little North Fork Clearwater, Lochsa, Selway, and South Fork Clearwater rivers on a frequent rotation to assess trends in abundance of important salmonids and determine whether changes in fishing seasons and rules are necessary to meet management goals.

Strategy: Provide harvest-oriented opportunities for warmwater species and stocked rainbow trout in lowland lakes. Manage at least two lowland lakes to provide quality bass fisheries.

Strategy: Evaluate lowland lakes every 5 to 10 years, which may include standardized lowland lake surveys, creel surveys, tagging evaluations, and limnological assessments. Based on findings, adjust stocking, limits, size restriction, vegetation control, etc. to better meet management goals.

Strategy: Maintain a kokanee fishery in at least one lowland lake.

Strategy: Provide fishing opportunities for Channel Catfish in at least two lowland lakes.

Strategy: Provide fishing opportunities for tiger muskie in at least one lowland lake. Evaluate new sources of tiger muskie and strive to stock fish larger than 12 inches.

5. Objective: Manage fisheries in mountain lakes to provide a quality fishing experience, pose low risk to native salmonids, and maintain long-term persistence of amphibians.

   Strategy: Evaluate and adjust stocking densities in HMLs to account for lake size and productivity, angler pressure, and angler desires.

   Strategy: Evaluate the potential long-term impacts high mountain lake stocking programs and fisheries may have on amphibian presence and persistence. Maintain suitable levels of fishless alpine lake habitat to maintain amphibian populations.

   Strategy: Implement management action to remove the “source” of Brook Trout from the Five Lakes Butte area in the upper North Fork Clearwater watershed.

   Strategy: Prioritize HMLs for Brook Trout removal efforts based on the benefits to native salmonids and removal feasibility.

   Strategy: Utilize sterile fish in HMLs if genetic introgression of native stocks is a concern.

6. Objective: Maintain or improve resident fisheries in Dworshak Reservoir.

   Strategy: Work cooperatively with U.S. Army Corps of Engineers to maintain the nutrient restoration program aimed at balancing annual levels of base nutrients (nitrogen and phosphorus) to improve water quality and increase zooplankton and fish production.

   Strategy: Monitor resident fishes that utilize Dworshak Reservoir to understand what roles reservoir operations and nutrient enhancement plays in growth, abundance, movement, survival, and angler use to allow for adaptive management when necessary.

7. Objective: Maintain/improve existing native and wild/natural populations of salmon and steelhead.

Strategy: Monitor native and wild/natural salmon and steelhead abundance, productivity, and life history diversity at select locations.

Strategy: Maintain Lochsa, Selway, and Potlatch rivers as native steelhead refuge areas with no hatchery releases or supplementation experiments.

Strategy: Explore opportunities to increase steelhead distribution upstream of Big Bear Falls within the Potlatch watershed.

Strategy: Out of basin trout stockings in connected anadromous waters must use sterile fish.

Drainage: Clearwater River

Waterbody	Species of Interest	Management Strategies		Additional Management Directions
	Species Present	Primary	Secondary	
Winchester Lake (100 acres)	Rainbow Trout	Hatchery-supported	Yield	Stock sterile catchable rainbow Trout to meet angler demand.
	Largemouth Bass	Wild/natural	General	Maintain Largemouth bass fishing opportunity.
	Panfish	Wild/natural	Yield	Provide a yield fishery for Yellow Perch, Black Crappie, and Bluegill.
	Channel Catfish	Hatchery-supported	General	Stock with Channel Catfish to diversify this fishery.
	Tiger Muskie	Hatchery-supported	Trophy	Continue tiger muskie stocking to provide a unique trophy fishery.
Spring Valley Reservoir (50 acres)	Rainbow Trout	Hatchery-supported	Yield	Stock sterile catchable Rainbow Trout to meet angler demand.
	Largemouth Bass	Wild/natural	Quality	Provide a quality Largemouth Bass fishery.
	Panfish	Wild/natural	Yield	Provide a yield fishery for Black Crappie and Bluegill.
Mann Lake (135 acres)	Rainbow Trout	Hatchery-supported	Yield	Stock sterile catchable Rainbow Trout to meet angler demand.
	Largemouth Bass	Wild/natural	Quality	Provide a quality Largemouth Bass fishery.
	Panfish	Wild/natural	Yield	Provide a yield fishery for Black Crappie and Bluegill.
	Channel Catfish	Hatchery-supported	General	Stock with Channel Catfish to diversify this fishery.
Waha Lake (94 acres)	Rainbow Trout	Hatchery-supported	Yield	Stock sterile catchable Rainbow Trout to meet angler demand.
	Smallmouth Bass	Wild/natural	General	Promote harvest to reduce abundance and increase growth rates.
	Panfish	Wild/natural	Yield	Provide a yield fishery for Black Crappie and Yellow Perch.
	Tiger Muskie	Hatchery-supported	Trophy	Explore the potential of tiger muskie to provide a unique trophy opportunity and to improve the Smallmouth Bass size structure.
Soldiers Meadow Reservoir (110 acres)	Kokanee	Hatchery-supported	Yield	Monitor fishery and adjust stocking densities and stock (early vs late) to provide a desirable kokanee fishery.
	Coho Salmon	Hatchery-supported	General	Evaluate Coho Salmon in direct comparison to kokanee from a growth, survival, and angler desire standpoint.
	Rainbow Trout	Hatchery-supported	Yield	Stock sterile catchable Rainbow Trout to meet angler demands.
	Bass	Incompatible		This lake's management emphasis is for kokanee. If bass predation begins to influence kokanee abundance, a chemical treatment may be appropriate.

Moose Creek Reservoir (35 acres)	Rainbow Trout	Hatchery-supported	Yield	Stock sterile catchable Rainbow Trout to meet angler demands.
	Largemouth Bass	Wild/natural	General	Provide Largemouth Bass fishing opportunity.
	Panfish	Wild/natural	Yield	Provide a yield fishery for Black Crappie, and Bluegill.
				Utilize a winter drawdown to control aquatic vegetation when densities begin to negatively influence fishing opportunity.
Elk Creek Reservoir (90 acres)	Rainbow Trout	Hatchery-supported	Yield	Stock sterile catchable Rainbow Trout to meet angler demands.
	Brook Trout	Wild/natural	General	Manage to provide diversity to this fishery.
	Bass	Wild/natural	General	Provide Largemouth Bass fishing opportunity.
	Panfish	Wild/natural	Yield	Provide a yield fishery for Black Crappie and Bluegill.
Deer Creek Reservoir (65 acres)	Rainbow Trout	Hatchery-supported	Yield	Stock sterile catchable Rainbow Trout to meet angler demand.
	Brook Trout	Wild/natural and Hatchery-supported	General	Evaluate the costs and benefits of stocking sterile Brook Trout based on the abundance of wild fish and return to creel.
	Tiger Trout	Hatchery-supported	Trophy	Maintain this unique trophy fishing opportunity to draw in anglers
				Maintain Deer Creek Reservoir as a salmonid only fishery to maintain its uniqueness among the other lowland lakes.
Campbell's Pond (7 acres)	Rainbow Trout	Hatchery-supported	Yield	Stock sterile catchable Rainbow Trout to meet angler demands.
	Largemouth Bass	Wild/natural	General	Provide Largemouth Bass fishing opportunity.
	Bluegill	Wild/natural	Yield	Consider introducing Bluegill to provide diversity to this fishery and to provide forage for Largemouth Bass.
Deyo Reservoir (50 acres)	Rainbow Trout	Hatchery-supported	Yield	Stock sterile catchable Rainbow Trout to meet angler demand.
	Largemouth Bass	Wild/natural	Quality	Manage Largemouth Bass to provide fishing opportunities for quality sized fish and to control the Bluegill population.
	Bluegill	Wild/natural	Yield	Provide a yield fishery for Bluegill.
Robinson's Pond (2 acres)	Rainbow Trout	Hatchery-supported	Yield	Stock sterile catchable Rainbow Trout to meet angler demand.
	Panfish	Wild/natural	Yield	Provide a yield fishery for warmwater fish.
Snake River Levee Pond (4 acres)	Rainbow Trout	Hatchery-supported	Yield	Stock sterile catchable Rainbow Trout to meet angler demand and provide a high yield opportunity.

Clearwater River from mouth to South Fork Clearwater River (75 miles)	Steelhead	Native and Wild/natural	Anadromous	Manage impacts on juvenile and adult steelhead to stay within allowable ESA impacts.
	Steelhead	Hatchery-supported	Anadromous	Maintain a diversity of steelhead angling opportunities for different angler types. Manage fishery to distribute harvest amongst different communities, extend the duration of fishing seasons, and reduce excess hatchery broodstock.
	Spring Chinook Salmon Fall Chinook Salmon Coho Salmon	Wild/natural and Hatchery-supported	Anadromous	Salmon fisheries should be managed to stay within harvest shares and Wild fish impacts (fall Chinook) while attempting to distribute harvest amongst different communities and extend the duration of fishing seasons.
	Rainbow Trout	Wild/natural and Hatchery-supported	General	Make efforts to understand Rainbow Trout abundance, size structure, and origin and angler use on this fishery. Use this data to explore simplifying the seasons and rules.
	Mountain Whitefish	Native	General	Assess population status and trends as well as determine angler opinions and preferences for whitefish seasons and limits.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance.
	Smallmouth Bass	Incompatible		Encourage harvest to reduce abundance and predation on native fishes.
	Walleye	Incompatible		Encourage harvest to reduce abundance and predation on native fishes. Work with the WDFW, ODFW, and NPT on strategies to reduce spread.
Lapwai Creek and Tributaries (30 miles)	Steelhead	Native	Anadromous	Manage for native production of steelhead. Coordinate with the NPT on their habitat restoration and monitoring programs.
	Chinook Salmon and Coho Salmon	Hatchery-supported	Anadromous	Coordinate with the NPT on spring and fall Chinook Salmon and Coho Salmon stocking efforts.
	Rainbow Trout	Native	General	Manage Rainbow Trout to maintain or increase population abundance.
Potlatch River and tributaries (55 miles)	Steelhead	Native	Anadromous	Manage the Potlatch watershed as a native steelhead refuge area. Monitor wild steelhead abundance, productivity, and life history diversity.
	Chinook Salmon	Wild/natural	Anadromous	Consider introductions of spring Chinook Salmon but only in a manner where success of the introductions can be monitored and evaluated. Manage for wild production of fall Chinook Salmon
	Rainbow Trout	Native	General	Manage Rainbow Trout to maintain or build population abundance and provide resiliency to steelhead population. Do not stock trout into flowing waters.
	Smallmouth Bass	Incompatible		Encourage harvest to reduce abundance and predation on native fishes.
	Brook Trout	Incompatible		Encourage harvest to reduce abundance. .

Lolo Creek and tributaries (50 miles)	Steelhead Chinook Salmon Rainbow Trout Cutthroat Trout	Wild/natural and Hatchery-supported Wild/natural Native	Anadromous General General	Manage for wild production of steelhead and spring Chinook Salmon. Coordinate with the NPT on their habitat restoration, supplementation, and monitoring programs. Monitor parr abundance when feasible. Manage Rainbow Trout to maintain or increase population abundance. Manage Cutthroat Trout to maintain or increase population abundance.
Other mainstream Clearwater River tributaries (340 miles)	Steelhead Chinook Salmon Coho Salmon Rainbow Trout Cutthroat Trout	Native, Wild/natural and Hatchery-supported Native and Wild/natural	Anadromous General	Manage for native/wild production of salmon and steelhead. Work with NPT, action agencies and landowners in restoring anadromous fish populations through stream flow restoration and habitat improvement projects. Monitor parr abundance when feasible. Manage Rainbow Trout and Cutthroat Trout to maintain or increase populations.

Drainage: North Fork Clearwater River				
Waterbody	Species of Interest	Management Strategies		Additional Management Directions
	Species Present	Primary	Secondary	
North Fork Clearwater River from mouth to Dworshak Dam (2 miles)	Steelhead Spring Chinook Salmon Fall Chinook Salmon Coho Salmon	Hatchery-supported	Anadromous	Steelhead and salmon fisheries should be managed to stay within harvest shares and wild fish impacts while attempting to maintain the duration of fishing seasons and reduce excess hatchery broodstock (except for fall Chinook).
	Rainbow Trout	Wild/natural and Hatchery-supported	General	Make efforts to understand Rainbow Trout abundance, size structure, and origin and angler use on this fishery. Use this data to explore simplifying the seasons and rules.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance.
Dworshak Reservoir (53 miles/16,480 acres)	Kokanee	Wild/natural	Yield	Provide a yield fishery for kokanee.
	Smallmouth Bass	Wild/natural	Trophy	Provide harvest opportunity while maintaining a trophy size structure.
	Rainbow Trout	Wild/natural and Hatchery-supported	General	Stock sterile Rainbow Trout to provide harvest opportunities. Evaluate Rainbow Trout survival in relation to kokanee density and adjust stocking rates accordingly.
	Cutthroat Trout	Native	Quality	Manage Cutthroat Trout to maintain or improve their abundance and size structure.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance.
Little North Fork Clearwater River and tributaries (45 miles)	Rainbow Trout Cutthroat Trout	Native	General	Manage Rainbow Trout and Cutthroat Trout to provide harvest opportunity while maintaining the quality size structure and abundance.
	Mountain Whitefish	Native	General	Assess population status and trends as well as determine angler opinions and preferences for whitefish seasons and limits.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance. Monitor trends in abundance through established redd count surveys.
North Fork Clearwater River upstream of flatwater of Dworshak Reservoir (80 miles)	Cutthroat Trout Rainbow Trout	Native Native	Quality General	Manage Rainbow Trout and Cutthroat Trout to provide harvest opportunity while maintaining or improving abundance and size structure.
	Mountain Whitefish	Native	General	Assess population status and trends as well as determine angler opinions and preferences for whitefish seasons and limits.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance. Monitor trends in abundance through established redd count surveys.

All North Fork Clearwater River tributaries EXCEPT Kelly Creek (120 miles)	Cutthroat Trout Rainbow Trout Mountain Whitefish Bull Trout Brook Trout	Native Native Native Incompatible	General General General	Manage Cutthroat Trout and Rainbow Trout to provide harvest opportunity while maintaining or improving abundance. Provide harvest opportunities. Manage Bull Trout to maintain or increase population abundance. Work with USFS to monitor Bull Trout abundance through established redd count trend surveys. Make efforts to remove the “source” Brook Trout populations in the Meadow Creek watershed. Explore removing any other Brook Trout population in the upper North Fork Clearwater River watershed.
Kelly Creek and its tributaries (60 miles)	Cutthroat Trout Rainbow Trout Mountain Whitefish Bull Trout	Native Native Native	Quality General General	Manage Cutthroat Trout and Rainbow Trout to maintain a quality size structure and abundance. Assess population status and trends as well as determine angler opinions and preferences for whitefish seasons and limits. Manage Bull Trout to maintain or increase population abundance.
HMLs in the North Fork Clearwater drainage (289 acres)	Trout	Native, Wild/natural, and Hatchery-supported	General	In Five Lakes Butte area, remove Brook Trout from “source” lakes to benefit native species.

Drainage: South Fork Clearwater River				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
South Fork Clearwater River (65 miles)	Steelhead	Wild/natural and Hatchery-supported	Anadromous	Steelhead fisheries should be managed to stay within harvest shares and wild/natural fish impacts while attempting to reduce excess hatchery broodstock and extend the duration of the fishing season.
	Spring Chinook Salmon Fall Chinook Salmon Coho Salmon	Wild/natural and Hatchery-supported	Anadromous	Salmon fisheries should be managed to stay within harvest shares and wild fish impacts (fall Chinook) while attempting to extend the duration of fishing seasons. Monitor parr abundance.
	Cutthroat Trout	Native	General	Manage to improve the size structure and abundance of Cutthroat Trout.
	Rainbow Trout	Wild/natural/natural and Hatchery-supported	General	Manage Rainbow Trout to provide harvest opportunity while maintaining or improving abundance.
	Mountain Whitefish	Native	General	Assess population status and trends as well as determine angler opinions and preferences for whitefish seasons and limits.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance.
Ten Mile Creek and tributaries (15 miles)	Steelhead Spring Chinook Salmon	Wild/natural/natural	Anadromous	Manage for natural production of steelhead and Chinook Salmon. Monitor parr abundance.
	Cutthroat Trout Rainbow Trout	Native	General	Manage Cutthroat Trout and Rainbow Trout to provide harvest opportunity while maintaining or increasing abundance.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance.
Johns Creek (20 miles)	Steelhead Spring Chinook Salmon	Wild/natural/natural	Anadromous	Manage for natural production of steelhead and Chinook Salmon. Monitor parr abundance.
	Cutthroat Trout Rainbow Trout	Native	General	Manage Rainbow Trout and Cutthroat Trout to provide harvest opportunity while maintaining or increasing abundance.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance.
Newsome Creek and tributaries (15 miles)	Steelhead Spring Chinook Salmon	Wild/natural and Hatchery-supported	Anadromous	Manage for natural production of steelhead and Chinook Salmon. Monitor parr abundance.
	Cutthroat Trout Rainbow Trout	Native	General	Manage Rainbow Trout and Cutthroat Trout to provide harvest opportunity while maintaining or improving the abundance.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance.

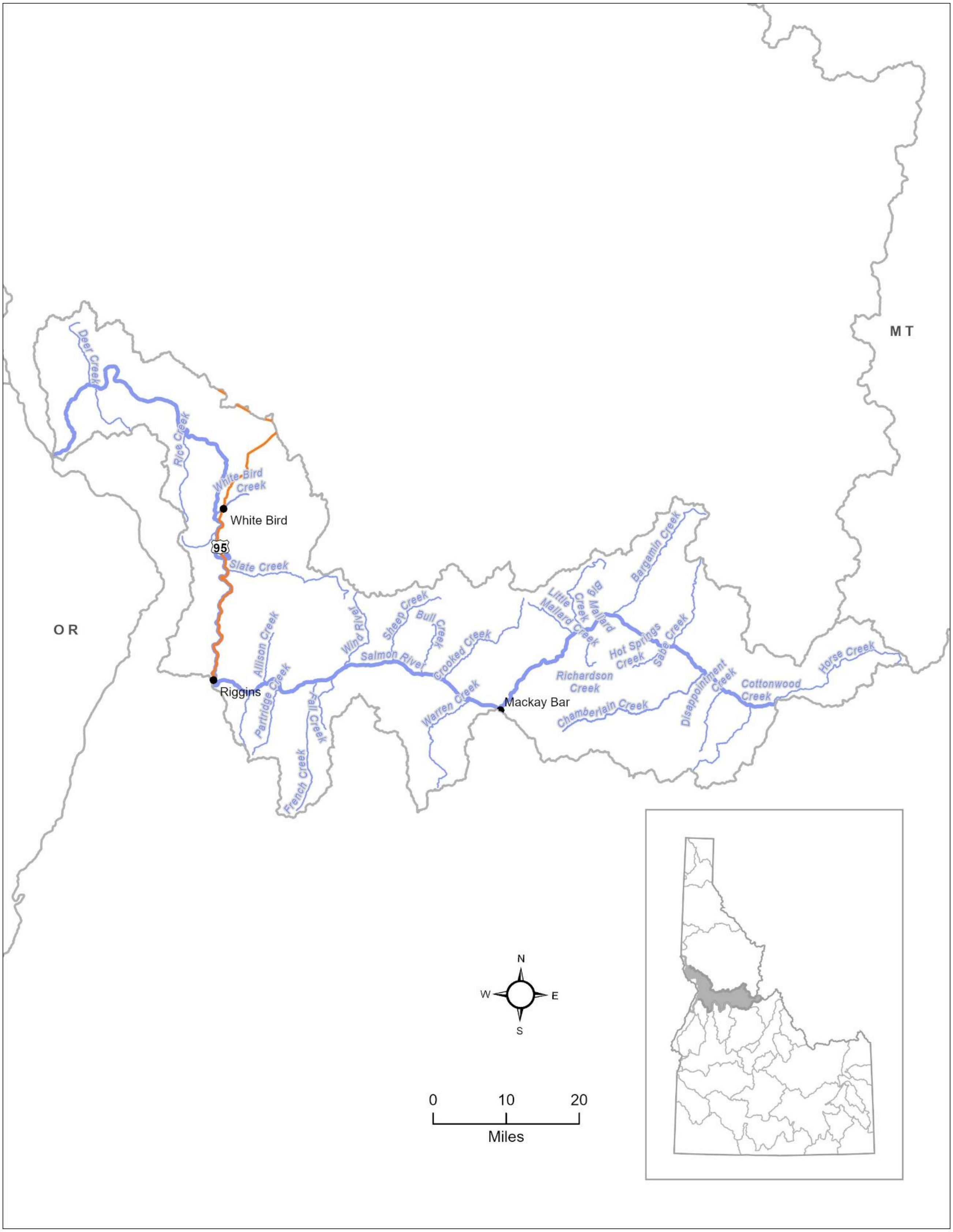
Red River and tributaries (30 miles)	Steelhead Spring Chinook Salmon	Wild/natural and Hatchery-supported	Anadromous	Manage for natural production of steelhead and Chinook Salmon. Monitor parr abundance. Monitor salmon spawning in select areas. Utilize as a smolt release and broodstock collection area for hatchery spring Chinook Salmon. Work with action agencies, NPT, and landowners to improve habitat quality.
	Cutthroat Trout Rainbow Trout	Native	General	Manage Rainbow Trout and Cutthroat Trout to provide harvest opportunity while maintaining or improving abundance.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance.
American River and tributaries (22 miles)	Steelhead Spring Chinook Salmon	Wild/natural and Hatchery-supported	Anadromous	Manage for natural production of steelhead and Chinook Salmon. Monitor parr abundance. Monitor salmon spawning in select areas. Work with action agencies, NPT, and landowners to improve habitat quality.
	Cutthroat Trout Rainbow Trout	Native	General	Manage Rainbow Trout and Cutthroat Trout to provide harvest opportunity while maintaining or improving and abundance.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance.
Crooked River and tributaries (23 miles)	Steelhead Spring Chinook Salmon	Wild/natural and Hatchery-supported	Anadromous	Manage for natural production of steelhead and Chinook Salmon. Monitor abundance, productivity, and life history diversity. Monitor salmon spawning in select areas. Work with action agencies, NPT, and landowners to improve habitat quality.
	Cutthroat Trout Rainbow Trout	Native	General	Manage Rainbow Trout and Cutthroat Trout to provide harvest opportunity while maintaining or improving abundance.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance.
Other South Fork Clearwater River Tributaries (30 miles)	Steelhead Spring Chinook Salmon	Wild/natural and Hatchery-supported	Anadromous	Manage for natural production of steelhead and Chinook Salmon. Monitor parr abundance. Monitor salmon spawning in select areas. Work with action agencies, NPT, and landowners to improve habitat quality.
	Cutthroat Trout Rainbow Trout	Native	General	Manage Rainbow Trout and Cutthroat Trout to provide harvest opportunity while maintaining or improving abundance.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance.
Karolyn's Pond (1 acre)	Rainbow Trout	Hatchery-supported	Yield	Maintain stocking of sterile trout to provide a harvest opportunity during peak seasonal use.
5-Mile Pond (1 acre)	Rainbow Trout	Hatchery-supported	Yield	Maintain stocking of sterile trout to provide a harvest opportunity during peak seasonal use.

Drainage: Middle Fork Clearwater River				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
Middle Fork Clearwater River from mouth to confluence with the Selway and Lochsa rivers	Steelhead	Native, Wild/natural, and Hatchery-supported	Anadromous	Downstream of Clear Creek - provide harvest steelhead fisheries while staying within harvest shares and wild fish impacts and attempting to maintain the duration of fishing seasons and reduce excess hatchery broodstock. Upstream of Clear Creek – manage steelhead for native production.
	Spring Chinook Salmon	Hatchery-supported	Anadromous	Chinook salmon should be managed to stay within harvest shares while attempting to maintain the duration of fishing seasons.
	Cutthroat Trout	Native	Quality	Manage Cutthroat Trout to maintain quality size structure and abundance.
	Rainbow Trout	Native and Wild/natural	General	Manage Rainbow Trout to provide harvest opportunity while maintaining or improving abundance.
	Mountain Whitefish	Native	General	Assess population status and trends as well as determine angler opinions and preferences for whitefish seasons and limits.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance.
	Smallmouth Bass	Incompatible		Encourage harvest to reduce abundance and predation on native fishes.
All Middle Fork Clearwater River tributaries	Steelhead Spring Chinook Salmon	Wild/natural and Hatchery-supported	Anadromous	Manage for natural production of steelhead and Chinook Salmon. Monitor parr abundance.
	Cutthroat Trout Rainbow Trout	Native Wild/natural	General	Manage Rainbow Trout and Cutthroat Trout to provide harvest opportunity while maintaining or improving abundance.

Drainage: Lochsa River				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
Lochsa River from mouth to Wilderness Gateway Bridge (MP 123) (30 miles)	Steelhead	Native	Anadromous	Maintain the Lochsa River watershed as a native steelhead refuge area. Monitor wild steelhead abundance, productivity, and life history diversity.
	Spring Chinook Salmon	Wild/natural and Hatchery-supported	Anadromous	Manage Chinook salmon fisheries within harvest shares while attempting to maintain the duration of fishing seasons.
	Cutthroat Trout	Native	Quality	Manage Cutthroat Trout to maintain quality size structure and abundance.
	Rainbow Trout	Native	General	Manage Rainbow Trout to provide harvest opportunity while maintaining or improving abundance.

	Mountain Whitefish	Native	General	Assess population status and trends as well as determine angler opinions and preferences for whitefish seasons and limits.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance.
Lochsa River from Wilderness Gateway Bridge to confluence of Colt Killed Creek and Crooked Fork Creek upstream to Brushy Fork Creek (45 miles)	Steelhead	Native	Anadromous	Maintain the Lochsa River watershed as a native steelhead refuge area. Monitor wild steelhead abundance, productivity, and life history diversity.
	Spring Chinook Salmon	Wild/natural and Hatchery-supported	Anadromous	Manage Chinook salmon fisheries within harvest shares while attempting to maintain the duration of fishing seasons.
	Cutthroat Trout Rainbow Trout	Native	Quality	Manage Cutthroat Trout and Rainbow Trout to maintain quality size and abundance.
	Mountain Whitefish	Native	General	Assess population status and trends as well as determine angler opinions and preferences for whitefish seasons and limits.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance.
All Lochsa River tributaries except Crooked Fork Creek downstream of Brushy Fork Creek (20 miles)	Steelhead	Native	Anadromous	Maintain the Lochsa River watershed as a native steelhead refuge area. Monitor wild steelhead abundance, productivity, and life history diversity with an emphasis on Fish Creek
	Spring Chinook Salmon	Wild/natural and Hatchery-supported	Anadromous	Manage for natural production of Chinook Salmon. Monitor parr abundance. Monitor salmon spawning in select areas.
	Cutthroat Trout Rainbow Trout	Native	General	Manage Rainbow Trout and Cutthroat Trout to provide harvest opportunity while maintaining or improving abundance.
	Mountain Whitefish	Native	General	Provide harvest opportunities.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance.
White Sands Pond (Powell Pond) (3 acres)	Rainbow Trout	Hatchery-supported	Yield	Maintain stocking of sterile trout to provide harvest opportunities during peak seasonal use.

Drainage: Selway River				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
Selway River from the mouth upstream to Selway Falls cable car (20 miles)	Steelhead	Native	Anadromous	Maintain the Selway River watershed as a native steelhead refuge area. Monitor parr abundance.
	Spring Chinook Salmon	Wild/natural and Hatchery-supported	Anadromous	Manage for natural production of Chinook Salmon. Monitor parr abundance.
	Cutthroat Trout	Native	Quality	Manage Cutthroat Trout to maintain quality size structure and abundance.
	Rainbow Trout	Native	General	Manage Rainbow Trout to provide harvest opportunity while maintaining or improving abundance.
	Mountain Whitefish	Native	General	Assess population status and trends as well as determine angler opinions and preferences for whitefish seasons and limits.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance.
Selway River upstream of the Selway Falls cable car (80 miles)	Steelhead	Native	Anadromous	Maintain the Selway River watershed as a native steelhead refuge area. Monitor parr abundance.
	Spring Chinook Salmon	Wild/natural and Hatchery-supported	Anadromous	Manage for wild production of Chinook Salmon. Monitor salmon spawning in select reaches. Monitor parr abundance.
	Cutthroat Trout Rainbow Trout	Native Native	Quality General	Manage Rainbow Trout and Cutthroat Trout to provide harvest opportunity while maintaining or improving size structure and abundance.
	Mountain Whitefish	Native	General	Assess population status and trends as well as determine angler opinions and preferences for whitefish seasons and limits.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance.
All Selway River tributaries (60 miles)	Steelhead	Native	Anadromous	Maintain the Selway River watershed as a native steelhead refuge area. Monitor parr abundance.
	Spring Chinook Salmon	Wild/natural and Hatchery-supported	Anadromous	Manage for wild production of Chinook Salmon. Monitor salmon spawning in select reaches. Monitor parr abundance.
	Cutthroat Trout Rainbow Trout	Native Native	General	Manage Rainbow Trout and Cutthroat Trout to provide harvest opportunity while maintaining or improving abundance.
	Bull Trout	Native	General	Manage Bull Trout to maintain or increase population abundance.
Fenn Pond (1 acre)	Rainbow Trout	Hatchery-supported	Yield	Maintain stocking of sterile trout to provide a harvest opportunity during peak seasonal use.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Partridge Creek
Fall Creek
French Creek
Wind River
Sheep Creek
Bull Creek
Salmon Rive
Crooked Creek
Warren Creek
Mackay Bar
Little Mallard Creek
Big Mallard Creek
Bargamin Creek
Hot Springs Creek
Sabe Creek
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8. Salmon River Drainage – Mouth to Horse Creek

Overview

The Salmon River drains about 14,100 square miles of landscape as it flows 410 miles from its headwaters in the Sawtooth and Whitecloud mountains of central Idaho to its mouth where it enters the Snake River. This drainage plan covers the 187-mile reach of the Salmon River from Horse Creek downstream to its mouth and its tributaries except the South Fork Salmon River, and Little Salmon River watersheds. Mean annual discharge over the last 25 years for the Salmon River at the White Bird gauging station is about 11,000 cfs with instantaneous flows ranging from 2,000 to 94,000 cfs.

The watershed surrounding the upper 74-mile section of the Salmon River between Vinegar Creek and Horse Creek is predominately national forest and includes portions of the Gospel-Hump and Frank Church-River of No Return wildernesses. This section of the Salmon River is commonly referred to as the Salmon River canyon, has limited access, and is classified "wild" under the Wild and Scenic Rivers System.

The entire 59-mile section of river from Hammer Creek boat ramp to Vinegar Creek boat ramp is bordered by some type of road with Highway 95 paralleling 30 miles of the river from the town of Whitebird upstream to Riggins. Much of the lower elevations along this reach of river are a mix of private and Bureau of Land Management (BLM) ownership with the upper elevations being predominantly USFS.

The 53-mile section of the Salmon River from its mouth to Hammer Creek has limited road access and is bordered by BLM ownership with the uplands being a mix of state, private, and federal ownership. This reach of river is suitable for future Wild and Scenic Rivers designation, and the Central Idaho Wilderness Act of 1980 prohibits mining activity in this river stretch.

Habitat in this drainage, especially the main Salmon River, is mostly considered to be in good to excellent condition as much of it is protected through Wilderness status, Wild and Scenic River designations, and state/federal management restrictions. However, the lower elevations of tributaries between Eagle Creek and Vinegar Creek are dominated by private landownership and tend to have lower quality habitat. Typical land management practices on private ground consist of grazing associated activities with irrigated hay production often occurring in flatter areas. Most tributaries in this reach have water rights associated with them for livestock watering and agricultural practices. Most streams are not dewatered from these practices although flows may be substantially reduced, and at times temporary barriers may be created from water diversions.

Average daily water temperatures in the main Salmon River at Whitebird exceed 20°C from early July to mid-August and drop below 5°C from early November to mid-March. Water temperatures in the main Salmon River are largely driven by environmental conditions and weather patterns although it is believed that management practices in the upper Salmon River watershed have resulted in increased summer temperatures in the main-stem river. Water temperatures in tributaries of the Salmon River are cooler than the main river due to their rapid descent from higher elevation timbered landscapes although streams temperatures are elevated on private ground where irrigation, grazing, or historic channelization has occurred.

The Salmon River is the second longest free-flowing river in the lower contiguous U.S. Legislation passed by Congress in 1989 prohibits the FERC from issuing any licenses to develop new mainstem hydropower projects in the unprotected portions of the Salmon River. Congressional intent also includes federally authorized projects. Most tributaries are free flowing although a few are known to have man-made barriers associated with irrigation diversion, road construction, or hydropower.

From a fisheries standpoint, The Salmon River drainage from its mouth upstream to Horse Creek is mostly known for its anadromous fisheries with steelhead being the most popular and widespread across the drainage. Most of the tributary streams in this drainage support spawning and rearing of wild steelhead. No hatchery releases of steelhead occur anywhere in this drainage allowing these tributary streams to maintain nearly pure native genetics. The mainstem Salmon River in this drainage is predominately a migratory corridor for steelhead although adults and juvenile steelhead overwinter in the mainstream river. Adult steelhead tend to start entering the Salmon River during their upstream migration in late September and some will remain until late April, early May.

The sport fishery on steelhead has been allowed in all 187 miles of the Salmon River in this drainage for decades and has been supported by hatchery steelhead releases that occur in the upper Salmon and Little Salmon rivers. This fishery has consistently opened on September 1 and closed on April 30, except for the reach upstream from Lake Creek Bridge (rm 92.2) which closes on March 31 to reduce impacts on native steelhead that spawn in the South Fork Salmon and Middle Fork Salmon rivers.

For spring/summer Chinook Salmon, the Salmon River in this drainage is predominately a migratory corridor, although some juveniles will winter in this reach. Adult spring/summer Chinook Salmon tend to migrate through the Salmon River from May through July whereas most juveniles migrate downstream in April and May. The large majority of native and wild/natural spring and summer Chinook Salmon in the Salmon River basin spawn and rear in watersheds outside of this drainage area. The most important spawning and rearing tributary for native spring/summer Chinook Salmon in this drainage is Chamberlain Creek. Although spring/summer Chinook Salmon are known to spawn and rear in other tributaries in this drainage, none are considered big producers due to their morphology (steeper gradients and “V” shaped valleys). Additionally, hatchery strays are known to spawn in tributaries within 20 miles of Rapid River fish hatchery.

No spring/summer Chinook Salmon are stocked in this drainage, although Rapid River hatchery which is located in the Little Salmon River drainage has a current goal to annually release 3,000,000 spring Chinook Salmon smolts into the Rapid River. Adults returning from these smolt releases have provided consistent fisheries in the lower Salmon River since 2001 and will continue to provide fisheries when the run-size is appropriate. This fishery typically occurs in May and June and often provides tens of thousands of hours of angling effort annually and attracts anglers from around the nation. Starting in 2001, about 40 miles of the Salmon River was opened to spring Chinook Salmon fishing from Hammer Creek boat ramp (rm 52.5) to Shorts Creek (rm 92.2). In 2009 it was expanded upstream about 20 miles to Vinegar Creek boat ramp (rm 112.0) and in 2010 it was expanded downstream about 15 miles to Rice Creek Bridge (rm 37.7) providing spring/Chinook fishing opportunity across about 74 miles of the Salmon River in most years.

Hatchery spring/summer Chinook Salmon released in the upper Salmon and South Fork Salmon rivers also migrate through the lower Salmon River. Attempts have been made to not target these returning adults based on run timing differences; however, there have been years when > 15% of the harvest share of these upstream fisheries have been caught in the lower Salmon River, spring Chinook Salmon fishery. In an effort to reduce harvest of these upstream returning fish, about 20 miles of the Salmon River between Shorts Creek and Vinegar Creek boat ramp was closed to spring Chinook Salmon fishing starting in 2024.

Fall Chinook Salmon spawning has been documented in the Salmon River periodically since 1993. Starting in 2018, a release goal of 1 million fall Chinook Salmon smolts began at Hammer Creek boat ramp (rm 52.5) as a supplementation and harvest program. Starting in 2024, an additional hatchery release with a release goal of 600,000 smolts began at Twin Bridges (rm 71). Redd counts in the lower Salmon River increased from an average of around 50/year prior to stocking in 2018 to where they averaged more than 500/year from 2020-2023. Redds have been observed in the Salmon River as far upstream as Vinegar Creek boat ramp (rm 112).

A fall Chinook Salmon fishery for both hatchery and natural fish was first opened in the Salmon River in 2019 from its mouth upstream to the Twin Bridges boat ramp (rm 71). In 2021, the fishery was extended upstream about 20 miles to the mouth of the Little Samon River (rm 91). With fall Chinook Salmon continuing to spread upriver, the fishery was extended another 20 miles upstream to Vinegar Creek boat ramp in 2025. This fishery has opened on August 18 and Closed on October 31 although most fall Chinook don't start entering the Salmon River until October. Fishing effort has increased steadily from about 2,700 angler hours in 2018 to over 10,000 angler hours in 2023. Effort is expected to increase with increased stocking and as anglers become more aware of this fishery and learn how to catch these fish.

Other anadromous fish that utilize this basin include Sockeye Salmon and Pacific Lamprey. Sockeye Salmon use this drainage as a migratory corridor with the adult migration occurring from late June to early August which overlaps with the warmest water temperatures. Lamprey are known to spawn and rear in this drainage, but little is known about their abundance.

Anadromous management actions in this drainage will emphasize maintaining and/or expanding existing natural spawning populations of steelhead and Chinook Salmon and preserving good habitat quality. Tributaries in the Salmon River canyon will continue to be managed for native steelhead and spring/summer Chinook Salmon production. Maintenance of the genetic resources contained in the native populations in the tributaries of this drainage will be a high priority. Objectives for natural escapement have been developed. Populations will be monitored to assess their status relative to management objectives. The mainstem Salmon River will continue to be managed for exploitation of hatchery steelhead, spring/summer Chinook Salmon, and fall Chinook Salmon when run sizes allow. Sport fisheries will allow catch and release fishing on naturally produced steelhead and spring/summer Chinook Salmon while staying within approved incidental impacts rates. Harvest opportunities on wild/natural fall Chinook will be provided when able to stay within allowable impact rates.

Resident fisheries in this drainage are minor in comparison to the anadromous fisheries. Juvenile steelhead, Cutthroat Trout, and Bull Trout occur in the tributaries although densities are often low and sizes small due to the low productivity and steeper gradients many of these tributaries have. These attributes also explain why fishing effort is light in most of the tributaries. Resident fisheries in the main Salmon River include White Sturgeon (downstream of Riggins) and Smallmouth Bass (downstream of the South Fork Salmon River). Smallmouth Bass seem to be increasing in abundance and expanding their range upstream. Smallmouth Bass have been shown to negatively influence survival of juvenile anadromous fishes in other locations, but their overall impact in this drainage has not been well studied. Furthermore, Walleye have been observed in the mainstem and if they become established, they could act as an additional predator. These introduced predators are incompatible with primary fisheries in this area. The main Salmon River tends to get too warm during summer months for Rainbow Trout, Cutthroat Trout, and Bull Trout except around the cold-water plumes near tributary mouths. High mountain lakes occur in the headwaters of tributaries upstream of the Little Salmon River. About 60% of the lakes are fishless.

The lakes with trout are supported through natural production and stocking. Stocking has been limited to species that are native (Cutthroat Trout or Rainbow Trout). Approximately 117 of these lakes, totaling ~546 acres, will be managed following the statewide principles described in the High Mountain Lakes Management section, and utilize findings from the long-term high mountain lake monitoring evaluation recently completed by the region.

Objectives and Strategies

1. Objective: Maintain and improve fish stream flows, habitat and water quality within the Salmon River watershed from the mouth to Horse Creek.

   Strategy: Continue working with land management agencies (USFS, BLM, State Department of Lands), County Soil and Water Conservation Districts, and private landowners to inform, educate and assist with land management planning for protecting fish habitat and water quality. Emphasize the need for stream flows and riparian habitat protection and enhancement. Encourage containment of sediment production areas, including old mining sites. Provide information about impacts that land use activities are having on natural production areas.

   Strategy: Continue working with IDWR, the Idaho Water board, and water right applicants to ensure adequate flow is maintained for fish. Emphasis should be put on watersheds with minimum stream flow water rights.

   Strategy: Minimize impacts or seek mitigation for land use activities that further degrade the quality of natural production areas. Encourage implementation of grazing management plans, which eliminate negative grazing impacts to fishery productivity and survival.

2. Objective: Provide fishing opportunities for hatchery salmon and steelhead that balances the desires and interests of different angler types and communities that benefit from these fisheries.

   Strategy: Evaluate whether season and rule changes can be made to increase overall angler satisfaction for both salmon and steelhead anglers.

   Strategy: Continue to coordinate with the NPT and USFWS on stocking of hatchery salmon and steelhead smolts to provide harvest opportunities for returning adults in a manner acceptable to Tribal and nontribal anglers.

   Strategy: Explore strategies to expand salmon and steelhead fishing opportunities especially with the ability for anglers to use electronic tagging to validate harvested fish.

3. Objective: Maintain/improve existing native and wild/natural populations of Chinook Salmon and steelhead.

   Strategy: Monitor native steelhead and Chinook Salmon populations in priority drainages.

   Strategy: Do not out-plant or stock hatchery steelhead or spring/summer Chinook Salmon into the mainstem or tributaries upstream from French Creek to preserve native fish genetic resources. Limit hatchery out-planting in tributaries downstream of French Creek to areas devoid of native anadromous fish.

Strategy: Coordinate with the NPT and NOAA on stocking of integrated fall Chinook Salmon into the Salmon River to supplement the wild/natural population and promote fisheries.

Strategy: Use fishing season and rules that ensure Idaho sport fishing is not responsible for declines in native or wild/natural salmon and steelhead populations.

Strategy: Work with cooperators on strategies to reduce the spread and abundance of Smallmouth Bass and Walley.

4. Objective: Maintain or Improve fishing access.

   Strategy: Explore opportunities to increase ADA-compatible access to popular fisheries with an emphasis on salmon and steelhead fisheries.

   Strategy: As opportunities allow, acquire/secure public fishing access with an emphasis along the Salmon River near Riggins.

5. Objective: Manage fisheries in mountain lakes to provide a quality fishing experience, pose low risk to native salmonids, and maintain long-term persistence of amphibians.

   Strategy: Evaluate and adjust stocking densities in HMLs to account for lake size and productivity, angler pressure, and angler desires.

   Strategy: Finalize the long-term high mountain lake study to evaluate the impacts the current stocking program has on long term probability of persistence of amphibians. Utilize results from the study to maintain suitable levels of fishless alpine lake habitat to maintain amphibian populations.

   Strategy: Develop a prioritize list of HMLs for Brook Trout removal based on the potential benefit this would provide to native salmonids and the potential for success.

   Strategy: Utilize sterile fish in HMLs if genetic introgression of native stocks is a concern.

6. Objective: Maintain angling opportunities for resident fish in rivers, streams, and lowland lakes to meet angler demand.

   Strategy: Provide liberal harvest opportunities for warmwater species and stocked rainbow trout in lowland lakes and ponds.

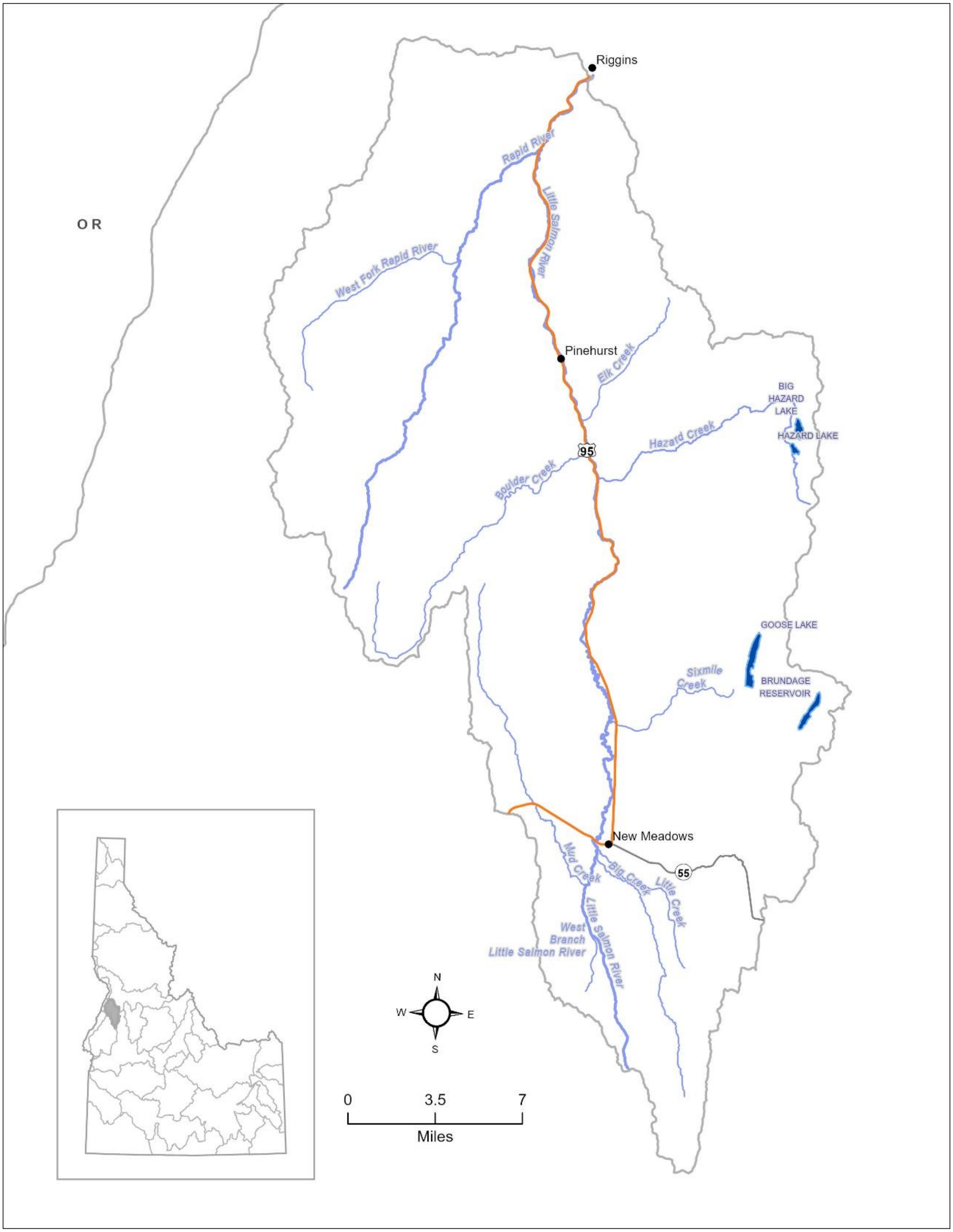
   Strategy: Evaluate lowland lakes every 5 to 10 years with standardized lowland lake surveys in conjunction with a creel survey and assessment of the limnological conditions. Based on findings, adjust stocking, limits, size restriction, vegetation control, etc. to better meet management goals.

   Strategy: Continue to work with the White Sturgeon Technical Advisory Committee to assess the sturgeon population in the Salmon River. Coordinate work with IPC to assess abundance and long-term trends in abundance.

   Strategy: Maintain harvest opportunities for trout in rivers and streams.

Drainage: Salmon River-Mouth to Horse Creek				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
Salmon River from its mouth to Horse Creek (200 miles)	Steelhead Spring/Summer Chinook Fall Chinook Salmon	Native and Wild/natural Wild/natural	Anadromous	Manage impacts on juvenile and adult salmon and steelhead to stay within allowable ESA impacts.
	Steelhead Spring/Summer Chinook Fall Chinook Salmon	Hatchery-supported Hatchery-supported Wild/natural and Hatchery-supported	Anadromous	Coordinate spring/summer/fall hatchery Chinook Salmon releases, run size estimates, harvest shares, ESA impacts, and harvest with the NPT. Enhance steelhead fishing opportunities with a combination of A and B strain smolt releases into upstream areas.
	Rainbow Trout	Native and Wild/natural	General	Provide harvest opportunities for Rainbow Trout without reducing population abundance or size structure.
	Cutthroat Trout	Native	Quality	Manage to maintain or improve current abundance and size structure
	Mountain Whitefish	Native	General	Provide harvest opportunities.
	Bull Trout	Native	General	Manage to maintain stable or increasing populations.
	White Sturgeon	Native	General	Follow guidance of White Sturgeon Management Plan.
	Smallmouth Bass	Incompatible		Encourage harvest to reduce abundance and predation on native fishes.
	Walleye	Incompatible		Encourage harvest to reduce abundance and predation on native fishes. Work with the WDFW, ODFW, and NPT on strategies to reduce spread.
All tributaries of the Salmon River from its Mouth to Horse Creek (excluding the Little Salmon River, and South Fork Salmon River watersheds) (370 miles)	Steelhead Chinook Salmon	Native and Wild/natural	Anadromous	Manage for native production of steelhead and Chinook Salmon. Monitor parr abundance in select watersheds.
	Cutthroat Trout Rainbow Trout	Native	General	Provide harvest opportunities for Rainbow Trout and Cutthroat Trout while maintaining or increasing abundance.
	Bull Trout	Native	General	Manage to maintain stable or increasing populations.
Tolo Lake (35 acres)	Rainbow Trout	Hatchery-supported	Yield	Stock sterile catchable Rainbow Trout to maintain, at a minimum, catch rates of 0.5 trout/hour
	Largemouth Bass	Wild/natural	General	Provide Largemouth Bass fishing opportunity.
	Panfish	Wild/natural	Yield	Provide a yield fishery for Black Crappie and Bluegill.
Long Gulch Pond (5 acres)	Rainbow Trout	Hatchery-supported	Yield	Maintain stocking of sterile trout to provide a harvest opportunity during peak seasonal use.

9. Little Salmon River Drainage



Overview

The Little Salmon River begins in the Meadows Valley in Adams County and flows northward to its confluence with the Salmon River at Riggins. Major tributaries include Goose Creek, Hazard Creek, Boulder Creek, and Rapid River. The drainage area is 516 square miles and includes elevations from 1,760 feet at the mouth to 9,000 feet in the Seven Devils Mountains and Hazard Creek drainages. Discharge at Riggins averages 854 cfs with extremes ranging from 98 cfs to 12,600 cfs.

Most of the upland portion of the Little Salmon River drainage is managed by the Payette National Forest, including a portion of the Hells Canyon Wilderness in the headwaters of Rapid River and several roadless areas. Much of the mainstem Little Salmon River bottom is privately owned, with a mix of large ranches and smaller developments. There is also State-owned land, BOR land, and privately-owned timber holdings within the drainage.

At Round Valley Creek, a set of waterfalls (Little Salmon Falls) separates the meandering, lower-gradient reach of the upper mainstem river from the higher-gradient reach downstream. There are 15,300 acres of irrigated agricultural lands, primarily hay meadows and pastures, mostly in the upper mainstem valley. According to IDEQ's 2022 status report, this upper reach suffers from high-levels of sedimentation, phosphorus loading, temperature impairment, and E. coli contamination. However, the lower portion of the mainstem and its tributaries generally consist of much higher-quality habitat. Rapid River, Boulder Creek, and Hazard Creek are all important tributaries for cold-water salmonids. Currently, habitat improvement efforts are focused on improving water quality and reestablishing the riparian corridor in the impaired upper reach of the Little Salmon River. Department staff work with the Little Salmon River Watershed Advisory Group and participate with agencies and landowners to implement and monitor various projects prescribed through Total Maximum Daily Load and water management plans.

The Little Salmon River drainage supports spring Chinook Salmon, steelhead, Redband Trout, Westslope Cutthroat Trout, Bull Trout, Brook Trout, Mountain Whitefish, and nongame species. Little Salmon Falls is considered a significant barrier to upstream fish migration in the Little Salmon River. In 1929, the Department attempted to encourage fish passage above Little Salmon Falls by blasting rock and installing fish ladders at the two major barriers. Those fish ladders still exist, however, this effort was unsuccessful and anadromous fish distribution is still limited to below the falls. The Rapid River drainage is a particularly important tributary, which provides essential, good quality spawning and rearing habitat for Chinook Salmon, steelhead, and migratory Bull Trout to maintain natural production. It also supplies high-quality water for IPC's Rapid River Hatchery which spawns and rears spring Chinook Salmon.

Anadromous fisheries in the Little Salmon River occur on hatchery-reared spring Chinook Salmon released from the Rapid River Hatchery, and on hatchery steelhead reared at Magic Valley and Niagara Springs Hatcheries. Harvestable surplus of these fish are utilized for treaty and non-treaty fisheries. Anadromous management in the Little Salmon River drainage emphasizes hatchery production to provide spring Chinook for harvest as the first priority. Steelhead stocking is designed to provide harvest opportunity in the mainstem Salmon River near Riggins and in the Little Salmon River. This is the only Salmon River tributary open during steelhead season. Objectives for anadromous natural escapement have been developed. Populations will be monitored to assess their status relative to management objectives.

The Little Salmon River drainage also supports a number of popular resident fisheries. Major lakes and reservoirs include Fish (Mud) Lake, Goose Lake, Brundage Reservoir, and Hazard Lake. Brundage Reservoir is managed as a trophy trout fishery. There are at least 42 HMLs in the drainage that are popular recreation destinations and provide general fishing opportunity in high elevation settings for many anglers. These lakes will be managed following the principles outlined in the High Mountain Lakes Management section.

Objectives and Strategies

1. Objective: Maintain and improve fish habitat and water quality within the Little Salmon River drainage.

   Strategy: Work with land management agencies, soil and water conservation districts, private landowners, and tribes, to inform, educate and assist with land management planning for protecting and improving the riparian corridor, fish habitat and water quality.

2. Objective: Maintain a diversity of fishing opportunity in the Little Salmon River drainage.

   Strategy: Provide opportunities to harvest hatchery salmon and steelhead when run sizes permit.

   Strategy: Provide a diversity of HML fishing opportunities.

   Strategy: Utilize fingerling and catchable stocking for hatchery trout where appropriate, based on use and exploitation evaluations.

3. Objective: Improve and increase fishing access.

   Strategy: Work with private landowners to provide access to important fisheries through access agreements.

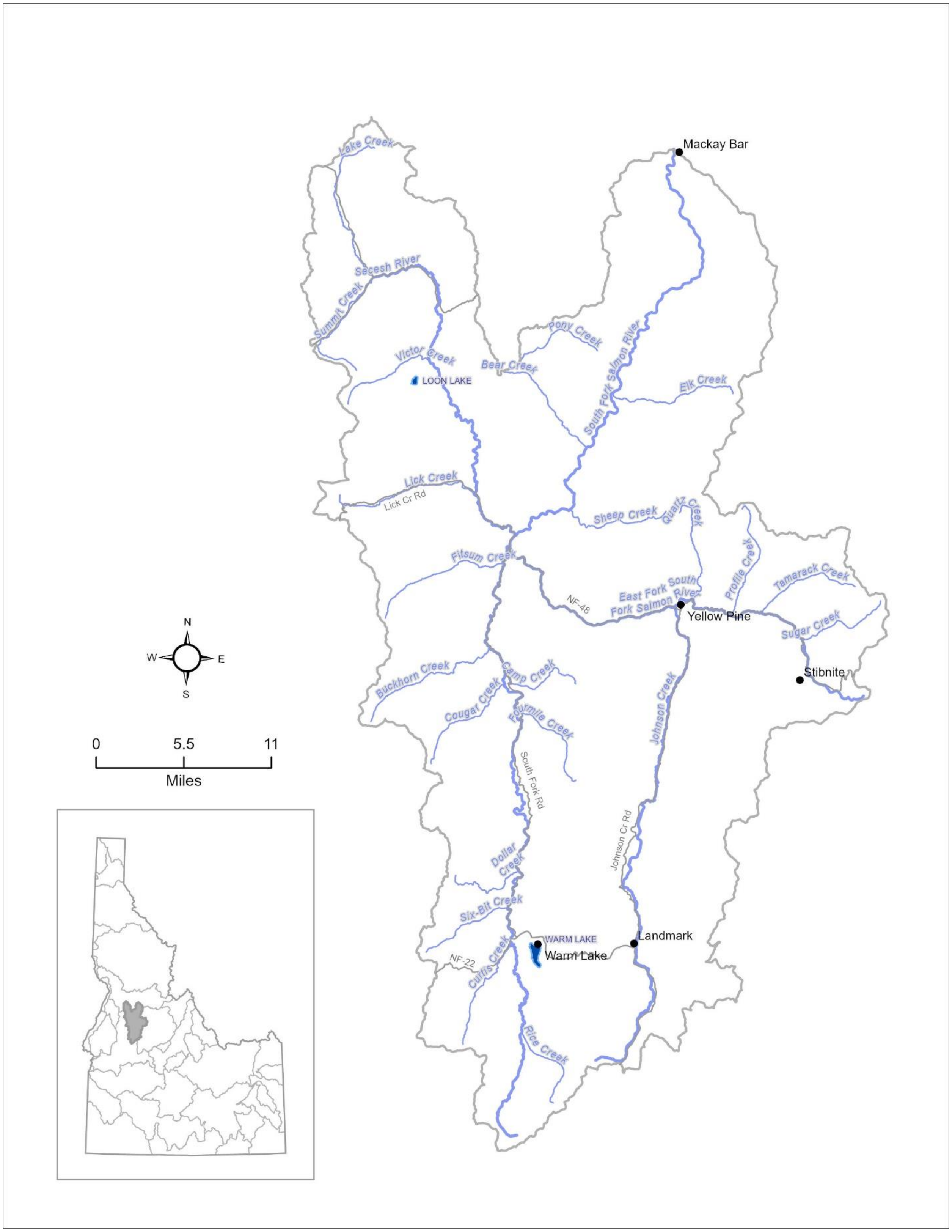
   Strategy: Acquire/secure additional fishing access sites as opportunities allow.

4. Objective: Maintain/improve existing natural/wild populations of Chinook Salmon and steelhead.

   Strategy: Monitor wild salmon and steelhead abundance, productivity, and life history diversity at select locations.

Drainage: Little Salmon River				
Waterbody	Species of Interest	Management Strategies		Additional Management Directions
		Primary	Secondary	
Little Salmon River and tributaries (193 miles)	Chinook Salmon Steelhead	Hatchery-supported Wild/Natural	Anadromous	Manage primarily for sport fishing opportunity on hatchery produced salmon and steelhead downstream of Little Salmon Falls. Monitor any harvest fishery closely through creel survey. Focus releases to maximize angler opportunity and adult returns. Monitor parr abundance.
	Bull Trout	Native	General	Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
	Rainbow Trout Cutthroat Trout Mountain Whitefish	Wild/natural	General	Enhance populations of wild trout by improving habitat and water quality throughout the drainage. Only stock sterile trout.
	Brook Trout Smallmouth Bass	Incompatible		Promote reduction of Brook Trout and Bass through liberal harvest regulations
Rapid River and tributaries from mouth to headwaters (35 miles)	Chinook Salmon Steelhead	Wild/natural	Anadromous	Closed to adult Chinook Salmon and Steelhead harvest. Enhance spring Chinook Salmon and steelhead returns to Rapid River trap and allow natural escapement to maximize seeding of spawning and rearing habitat. Annually monitor steelhead abundance, productivity, and life history diversity
	Bull Trout	Native	General	Monitor bull trout population and life history.
	Rainbow Trout Cutthroat Trout Mountain Whitefish	Wild/natural	General	Maintain and improve existing habitat to sustain/enhance wild salmonid stocks.
Fish (Mud) Lake (30 acres)	Rainbow Trout	Wild/natural	General	Public access to Fish Lake is currently very limited. Continue to work with neighboring landowners to allow access through the use of access agreements or by other means.
Brundage Reservoir (220 acres)	Rainbow Trout Cutthroat Trout	Wild/natural	Quality	Maintain quality trout fishery. Allow harvest of smaller trout under 14 inches. Monitor trout size and relative abundance through fall gillnetting. Investigate methods to improve growth.

<u>10.</u> South Fork Salmon River Drainage



Overview

The South Fork Salmon River (SFSR) drainage lies in central Idaho in Valley and Idaho counties. The drainage flows northerly through the Idaho batholith and enters the Salmon River at Mackay Bar. Major tributaries include the Secesh River and the East Fork South Fork Salmon River, including Johnson Creek. The drainage area is 1,309 square miles and includes elevations from 9,329 feet at North Loon Mountain to 2,160 feet at the mouth. The USGS operated a stream gauge at the mouth near Mackay Bar from 1993 to 2003, and recorded a mean annual discharge of 1,983 cfs, with extremes ranging from 318 cfs to 21,600 cfs.

The South Fork Salmon River drainage is characterized by steep topography, canyon lands, and meadows. Nearly the entire drainage area is National Forest land, with a few dispersed private inholdings. The southern portion is managed by the Boise National Forest and the northern portion is managed by the Payette National Forest.

Several historical activities have resulted in degradation of habitat quality in the SFSR drainage. Significant mining operations for gold and antimony occurred in the headwaters of the East Fork South Fork Salmon River at Stibnite from 1899 to 1990. The upper East Fork South Fork Salmon River is listed by IDEQ as impaired for elevated levels of mercury and arsenic as a result of these past mining activities. An Idaho-based mining company – Perpetua Resources – is currently in the process of working with permitting agencies to pursue a 30-year mining project at Stibnite, in which site restoration is a notable component of their proposal. Much of the SFSR drainage was heavily logged from the 1940s to the 1960s, at which time more than 800 miles of logging roads were constructed. Subsequently, heavy rain events on unstable soils in the late-1960s resulted in significant sedimentation into the South Fork and its tributaries. The entire mainstem SFSR and several tributaries are currently listed as impaired for sedimentation and elevated stream temperature according to IDEQ's 2022 status report. Current habitat improvement efforts in the mainstem SFSR drainage are focused on reducing sediment loads wherever possible.

The South Fork Salmon River drainage supports summer Chinook Salmon, steelhead, Redband Trout, Westslope Cutthroat Trout, Bull Trout, Brook Trout, Mountain Whitefish, and nongame species. Anadromous fish (Chinook Salmon, steelhead, and Pacific Lamprey) have access to most of the drainage. Historically, the steelhead spawning run exceeded 3,000 fish, and the drainage supported the largest summer Chinook Salmon run in the state of Idaho. Salmon fishing was a major economic resource in the SFSR prior to 1965, when anglers harvested 1,700 to 4,000 salmon annually. Steelhead anglers harvested 750 to 800 fish per year. Anadromous runs have declined considerably since then, to about one-tenth of their former abundance, primarily as a result of the aforementioned sedimentation events, and hydroelectric development in the Snake and Columbia Rivers. Subsequently, Chinook fishing seasons were closed in 1965 and steelhead fishing was closed in 1968.

Anadromous fisheries in the SFSR are currently conducted on returns of hatchery released summer Chinook Salmon raised at the McCall Fish Hatchery, which is operated by Department staff. Returning adults are collected for broodstock at the SFSR satellite weir facility on the mainstem SFSR, approximately 71 miles upstream from the mouth. The management goals for this program are to provide sustainable fishing opportunities and to enhance, recover and sustain the natural spawning population. As such, this program also includes a conservation component intended to increase the abundance of naturally spawning fish through an integrated supplementation effort. In addition, NPT fisheries staff operate an integrated supplementation program for Chinook Salmon on Johnson Creek, and SBT fisheries staff operate an egg box program in Curtis and Cabin Creeks in the upper SFSR basin. When surplus adults are available, outplants into the upper East Fork South Fork Salmon River may also occur. The Secesh River drainage is maintained without any hatchery Chinook influence. Objectives for natural escapement have been developed. Populations will be monitored to assess their status relative to management objectives.

The SFSR is one of only four drainages in the Columbia basin that supports populations of wild, native steelhead classified as B-run. These fish are predominantly large steelhead, which spend two or three years in the ocean, compared to the smaller A-run steelhead which inhabit much of the rest of the Salmon River drainage. Preservation of this native gene pool is a high priority.

Notable resident fisheries in the SFSR drainage consist of Warm Lake - the largest lake, measuring 640 surface acres, 36 high elevation mountain lakes that are stocked on a rotational basis with sterile fingerling trout, and hundreds of miles of rivers and streams which provide catch-and-release opportunity for wild, native trout. Harvest was closed for Cutthroat Trout in flowing waters of the SFSR drainage in 1985, and in 1993 hatchery trout stocking was discontinued in the drainage with the exception of lakes. In 1998, a drainage-wide catch-and-release regulation was implemented, and current management efforts focus on preserving genetic integrity of native Westslope Cutthroat Trout and Bull Trout and maintaining conservation management to increase population sizes. Populations are monitored to assess their status relative to these management objectives. The harvest of Brook Trout in HMLs is promoted with liberal regulations, and the Department will consider Brook Trout removal efforts to reduce the risk of competition or hybridization with native trout.

Objectives and Strategies

1. Objective: Maintain and improve fish habitat and water quality within the South Fork Salmon River drainage.

   Strategy: Work with land management agencies, soil and water conservation districts, and tribes, to inform, educate and assist with land management planning for protecting and improving fish habitat and water quality.

   Strategy: Cooperate with other entities on the development of the environmental review of the proposed Stibnite Gold Mine. Ensure effective monitoring standards for water quality and fish and wildlife values are implemented if the mine project proceeds.

2. Objective: Maintain a diversity of fishing opportunities in the South Fork Salmon River drainage.

   Strategy: Provide opportunity to harvest hatchery salmon when run sizes permit. Work with anglers and other stakeholders to provide additional access opportunities where feasible.

   Strategy: Provide a diversity of HML fishing opportunities.

   Strategy: Maintain fishing opportunity for native trout in flowing waters.

3. Objective: Improve and increase fishing access.
   Strategy: Cooperate with land management agency staff to provide fishing access along the South Fork Salmon River Road and East Fork South Fork Salmon River while minimizing impacts to streambanks and riparian areas.

Strategy: Cooperate with land management agency staff to track and minimize shoreline impacts at mountain lakes.

4. Objective: Maintain/improve existing natural/wild populations of steelhead and summer Chinook Salmon.

   Strategy: Allow natural production to sustain existing naturally produced populations. Limit out-planting of hatchery summer Chinook Salmon, other than direct hatchery releases, to support the Hatchery Genetic Management Plan (HGMP).

   Strategy: Maintain genetic integrity of wild salmon and steelhead in the Secesh River. Manage hatchery-supplemented Salmon River steelhead and spring Chinook stocks to minimize straying into the South Fork Salmon River. Minimize straying of South Fork Salmon River hatchery summer Chinook Salmon into the Secesh River.

   Strategy: Utilize the sliding-scale management framework to implement the integrated broodstock program, and work with the Nez Perce and Shoshone-Bannock Tribes to develop hatchery fish release programs that preserve and protect genetic resources of naturally-spawning salmon and steelhead populations.

   Strategy: Monitor wild salmon and steelhead abundance, productivity, and life history diversity at select locations.

4. Objective: Preserve genetic integrity of native Westslope Cutthroat Trout and Bull Trout. Maintain conservation management to increase population sizes.

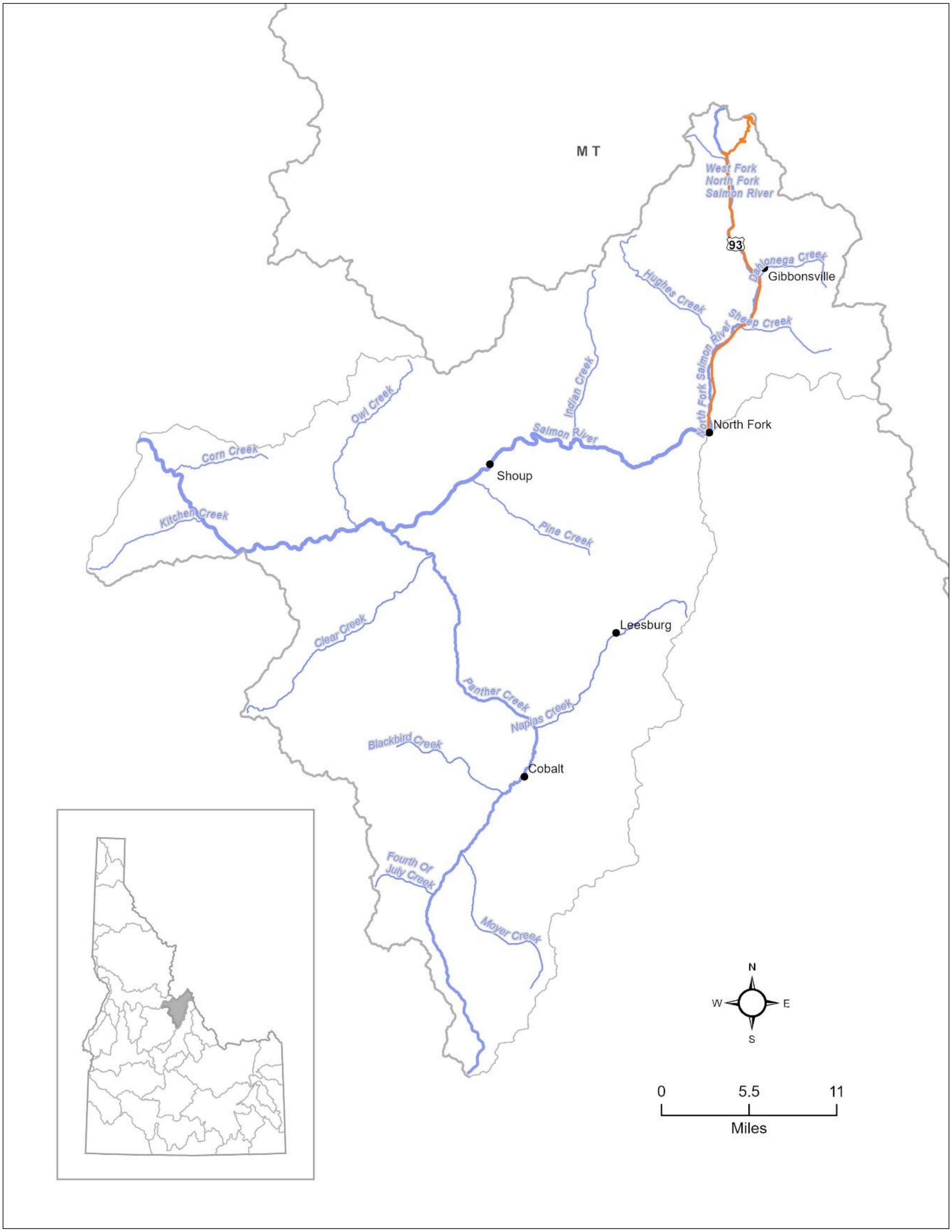
   Strategy: Maintain catch-and-release fisheries throughout the drainage.

   Strategy: Utilize sterile trout for high mountain lake stocking.

   Strategy: Monitor fish populations and fisheries periodically to assess their status.

Drainage: South Fork Salmon River				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
South Fork Salmon River and tributaries	Chinook Salmon	Wild/natural Hatchery-supported	Anadromous	Provide fishing opportunities on hatchery-origin fish and minimize impacts to natural-origin fish. Recover and sustain natural spawning populations. Improve and maintain quality migration, spawning, and rearing habitats. Monitor abundance, productivity, and life history diversity.
	Steelhead	Native	Anadromous	Increase steelhead runs to historic spawning areas. Improve connectivity to tributary habitat. Maintain entire drainage as genetic refuge. Closed to angling for wild fish (>20 inches). Monitor parr abundance. Monitor abundance, productivity, and life history diversity.
	Rainbow Trout Cutthroat Trout Mountain Whitefish	Wild/natural	General	Conserve populations of wild trout through conservative regulations. Participate in land management plans to promote enhancement of in-stream and riparian habitats and connectivity to tributary habitat to support fish populations. Monitor population trends and life history variation. Only stock sterile trout in the drainage.
	Brook Trout	Incompatible		Promote harvest of Brook Trout with liberal regulations.
	Bull Trout	Native	General	Monitor population trends, life history variation, and targeted angling. Explore opportunities to increase distribution and abundance.
Secesh River and tributaries	Chinook Salmon Steelhead	Native	Anadromous	Manage the Secesh River drainage for native salmon and steelhead. Maintain the native gene pool and do not release hatchery salmon or steelhead into the drainage. Work with land management agencies and private landowners to develop habitat improvement projects that focus on improving spawning and rearing habitat. Monitor parr abundance and salmon spawning.
	Bull Trout	Native	General	Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
Warm Lake (410 acres)	Rainbow Trout	Hatchery-supported	General	Monitor use and exploitation of stocked catchable Rainbow Trout. Adjust stocking as necessary to maximize efficiency of stocking program.
	Lake Trout Kokanee Bull Trout	Wild/natural	General	Monitor relative abundance and size structure to determine if management intervention is necessary. Consider Lake Trout removal efforts if juvenile production increases. If kokanee stocking is warranted, stock only sterile fish.
	Brook Trout	Incompatible		Promote harvest of Brook Trout with liberal regulations.

11. Salmon River Drainage – Horse Creek to North Fork



Overview

The Salmon River drainage includes 14,100 square miles and flows 410 miles from its headwaters in Blaine County in south central Idaho to its confluence with the Snake River in Idaho County in northwestern Idaho. Upstream from the confluence of the Middle Fork, the Salmon River is lower gradient, and it flows through open canyon and broad valleys. The town of North Fork is located at the confluence of the North Fork Salmon River (NFSR) and Salmon River. The portion of the Salmon River drainage from Horse Creek to North Fork is 50 miles long and is located entirely within Lemhi County. There is only a trail along the river from Horse Creek upstream to Corn Creek, and a road along the river for 46 miles from Corn Creek to North Fork. Boats are the primary mode of access downstream of Corn Creek. A boat ramp at Corn Creek receives heavy use from floaters during the summer months and jet boaters during the fall and spring steelhead seasons.

The USGS (USGS gage #13307000) measured Salmon River stream flow between Panther and Owl creeks at river mile 207.8 from 1945 to 1981 and 2003 to 2024. Annual mean discharge ranged from 1,700 cfs in 2004 to 4,587 cfs in 2017 and averaged 2,892 cfs. Diversions above this station irrigate about 149,000 acres, of which approximately 1,200 acres are by withdrawals from groundwater (1966 determination).

The Salmon River is designated under the federal Wild and Scenic Rivers System. From Vinegar Creek (near Riggins) to Corn Creek, the river is federally classified as "wild," and from Corn Creek to North Fork, it is federally classified as "recreational."

Fishing is an important recreational activity in this area, particularly steelhead fishing in the fall and early spring. Native and wild/natural summer steelhead migrate to the area and begin to arrive in the early fall. Many fish overwinter in this river stretch prior to resuming their spawning migration in the spring. As naturally produced and hatchery stocks intermingle and natural stocks are consistently under-escaped, harvest is allowed on hatchery fish only (identified by adipose fin clips). Populations will be monitored to assess their status relative to management objectives. The mainstem Salmon River will continue to be managed for exploitation of hatchery steelhead, while naturally produced steelhead will continue to provide incidental catch-and-release fishing in the Salmon River.

The Salmon River from Horse Creek up to and including the NFSR drainage has a history of mining activity. Gold was discovered near Shoup in 1881 and a mining town quickly developed. Cobalt is a mining community on Panther Creek that once had a population of more than 500 people when the Blackbird Mine was operational. Historically, numerous smaller mines operated throughout the NFSR drainage (Gibbonsville, Hughes Creek, etc.) and in the smaller tributaries along the north side of the Salmon River. Recent interest in rare earth minerals, particularly cobalt, have renewed mining interest throughout this reach of the Salmon River drainage.

The Panther Creek drainage contains nearly 100 miles of streams. Historically, Panther Creek supported an abundant population of Chinook Salmon, with an estimated adult return as large as 2,000 spawning fish prior to mine development. In 1952 and 1953, angler harvest of Chinook Salmon was estimated at 438 and 266 fish. By the mid-1950s, salmon were in decline due to acid and heavy metal contamination from the Blackbird Mine. In 1957, Panther Creek was closed to all salmon fishing, and no spawning redds were observed between 1962 and 1967 during annual spawning ground surveys. Spawning ground surveys were discontinued in 1968 due to the lack of adults returns.

The Department attempted Chinook Salmon reintroduction in Panther Creek in the 1970s and 1980s, utilizing adult, juvenile, and eyed-egg outplants, from Rapid River Hatchery (Hells Canyon Spring Chinook stock). However, the success of these introductions was limited due to inadequate water quality. Based on the lack of adult returns throughout the 1960s and the subsequent introductions of a variety of available hatchery stocks, the Chinook Salmon endemic to Panther Creek are considered extirpated (Mebane et al. 2015).

In the mid-1990s, the State of Idaho and the US Government negotiated legal settlements with several companies that included actions to improve water quality and funding to "restore natural resources and/or the services they provide and to compensate the public for interim losses resulting from injury to or destruction of natural resources" as a result of water contamination from Blackbird Mine operations. Actions to improve water quality, including perpetual water treatment, resulted in meeting water quality standards able to sustain fish in 2013 (Mebane et al. 2015). In June 2001, the Department released 1,064 adult Chinook Salmon from McCall Fish Hatchery (South Fork Salmon River summer Chinook stock) into Panther Creek, which resulted in spawning later that fall. Beginning in 2014, the SBT, in cooperation with the Department, have supplemented the Panther Creek population with eyed-eggs as part of their instream incubator program. The Department continues to monitor Panther Creek through redd counts and snorkel surveys, while the SBT performs electrofishing surveys, and operates a screwtrap, instream Passive Integrated Transponder (PIT) array, and adult picket weir. Adult and juvenile Chinook Salmon are now observed regularly, in low abundance throughout the watershed. Recent genetic analysis of adult Chinook returning to Panther Creek has identified the Department's earlier stocking events as the primary contributor the re-colonization of Panther Creek, with the majority of adults being of South Fork Salmon River (53.4%) and Hells Canyon (42.9%) hatchery origin, with the remainder assigning to Chamberlain Creek (2.6%), Middle Fork Salmon River (0.7%), and Upper Salmon River (0.5%) reporting groups (J. Hargrove, Department report to the SBT on Panther Creek).

The current SBT Waterwheel Hatchery proposal uses a captive broodstock program to provide eyed eggs for their instream incubator program. The Department's plans involve rearing Chinook Salmon to the smolt life stage at an existing Department hatchery for release into Panther Creek. Both programs will use a locally adapted broodstock developed from a combination of natural adult returns and donor eggs from the Pahsimeroi Hatchery, as outlined in the NOAA-approved HGMP for ESA compliance. The rebuilding of this Chinook Salmon population will contribute to recovery objectives, with a population goal to support additional angling opportunities for tribal and non-tribal anglers in the Salmon River and Panther Creek.

The NFSR drainage contains about 60 miles of stream, some of which have been negatively impacted by mining, logging, and channelization. Development of small parcels throughout the NFSR watershed has resulted in localized impacts to riparian vegetation and stream channel alterations. These factors have resulted in a loss of instream habitat complexity, and a reduction in suitable spawning, resting, and rearing habitats. It currently supports limited Chinook, steelhead, Bull Trout, and Westslope Cutthroat Trout spawning and rearing. Despite the habitat constraints, the NFSR is one of the colder tributaries to the system and is known to provide thermal refuge for early emigrating smolts during periods when the main Salmon River is too hot. Habitat restoration projects have been implemented annually since 2015, within mostly private property to increase available habitat. These projects are funded by PCSRF and match provided by BPA and SBT. Both adult and juvenile Chinook Salmon and steelhead have been observed using habitat structures in restoration areas soon after implementation. Other smaller tributaries to the main Salmon, such as Indian, Colson, and Pine creeks, primarily support steelhead spawning and rearing. Indian Creek also supports an SBT-led, eyed-egg steelhead supplementation programs. Resident and fluvial populations of Redband Trout, Bull Trout and Westslope Cutthroat Trout are also present in these mainstem tributaries.

Small numbers of White Sturgeon likely utilize the mainstem river reach between Horse Creek and North Fork, however little is known about their abundance and distribution, which may be limited by available habitat and icing conditions during the winter. Upstream of this section, an angler-caught White Sturgeon was documented in the Salmon River near McKim Creek at river mile 291 in 2005, and in 2016, Department sampling documented White Sturgeon further upstream in Cronk's Canyon near river mile 300. Additionally, White Sturgeon are caught by anglers in the reaches downstream of Horse Creek.

This portion of the mainstem Salmon River provides overwintering habitat for Westslope Cutthroat Trout that utilize spawning and summer habitat in the Middle Fork Salmon River, NFSR, Lemhi River, and tributaries upstream of Challis.

Despite the presence of secondary roads in many of the tributary drainages, low to moderate fishing effort is expended for resident trout species in these areas. Also, resident trout populations are reduced in the main river during the summer months due to warm temperatures and, consequently, low to moderate fishing effort is expended during this period. Tributaries in this river reach provide critical thermal refugia for anadromous and resident species during the summer months. The continued connectivity and reconnection of these environments is vital to develop sustainable fisheries in this area.

The Salmon River drainage from Horse Creek to North Fork contains approximately 27 high mountain lakes that provide a variety of fishing opportunities for Westslope Cutthroat Trout, Rainbow Trout, Arctic Grayling, Golden Trout, Bull Trout, and Brook Trout (see High Mountain Lake Management).

Objectives and Strategies

1. Objective: Maintain/improve existing wild/natural populations of native trout, Chinook Salmon and steelhead.

   Strategy: Sustain existing populations through natural reproduction. An exception to this program may include hatchery supplementation in the Panther Creek drainage to encourage restoration of wild/natural anadromous fish populations.

   Strategy: Monitor salmon and steelhead abundance, productivity, and life history diversity at select locations.

   Strategy: Ensure angling mortality is not causing excess mortality in native trout, Chinook Salmon, and steelhead. Maintain enforcement efforts to ensure compliance with differential harvest regulations.

2. Objective: Maintain and improve habitat quality of tributaries.

   Strategy: Work with landowners/managers to discourage land and water use activities that further degrade the quality of natural production areas. Participate in allotment management plan review. Encourage implementation of grazing management plans that eliminate negative grazing impacts to fishery productivity and survival. Participate in interagency exploratory mining oversight committees to review operating plans and work with regulatory agencies to require strict compliance with mining laws to protect water quality and fish populations. Develop monitoring programs for fish populations and fish habitat relative to mining activities, if needed. Support and encourage continued rehabilitation measures for tributaries, including the Panther Creek and NFSR drainages. Continue habitat enhancement and improvement projects in Salmon River tributaries which promote increased pool habitat, large wood recruitment, increased sinuosity and improved riparian conditions.

3. Objective: Correct fish passage impediments such as irrigation diversions, road culverts, and dewatered stream segments that delay or restrict anadromous and resident fish access to thermal refugia, and to spawning and rearing tributaries.

   Strategy: Cooperate with Lemhi County and federal land managers in identifying, prioritizing, and constructing fish passage improvement structures for culverts and road crossings.

   Strategy: Work with federal land managers and private irrigators to alleviate passage issues in tributaries due to irrigation diversions and dewatering. Identify and screen or repair irrigation diversions where needed. Assist the Upper Salmon basin Watershed Project and others to reconnect tributary streams. Maintain or improve in-stream flows through critical review of water right applications, and by working with private irrigators, Idaho Dept. of Water Resources, and irrigation districts to pursue water savings projects. Consider feasibility of lease/rentals, source switches, and minimum flow agreements.

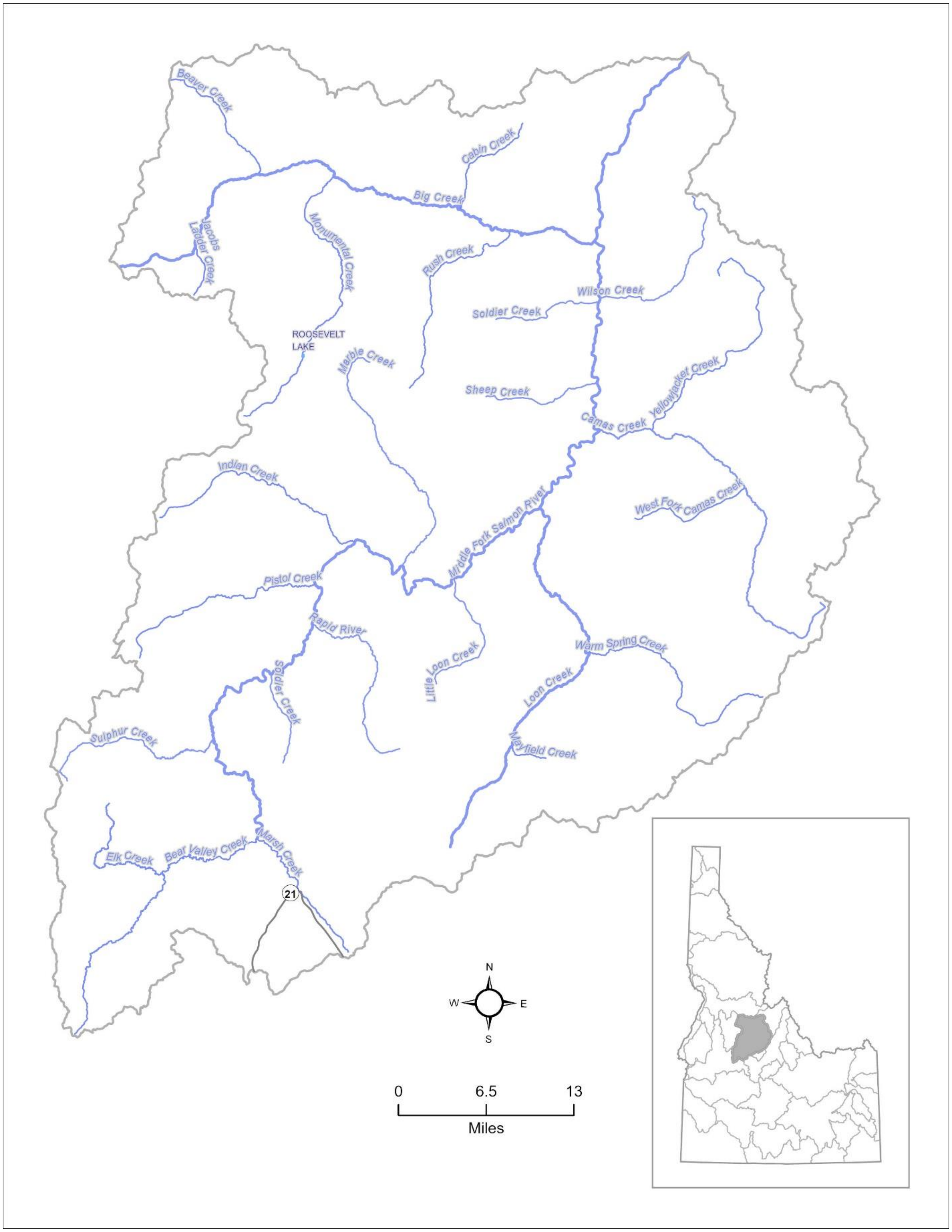
4. Objective: Maintain/improve the quality of Cutthroat Trout fishing in the mainstem Salmon River.

   Strategy: Periodically monitor exploitation rates to determine whether regulations are appropriate or need to be altered.

Drainage: Salmon River, Horse Creek to North Fork				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
Salmon River, from Horse Creek to North Fork (50 miles)	Cutthroat Trout Redband Trout Bull Trout Whitefish	Native	General	Manage wild trout to maintain or increase populations. Enhance populations of wild trout by directing harvest on hatchery fish only (identified by adipose fin clips). Continue to provide harvest opportunity for whitefish.
	Smallmouth Bass	Incompatible		Promote harvest of Smallmouth Bass to reduce predation of native fish.
	Steelhead Chinook Salmon	Wild/natural Hatchery-supported	Anadromous	Maintain adult harvest closure until MFSR and upper Salmon River escapement goals are met. Provide maximum yield of fish surplus to escapement goals.
Tributaries from Horse Creek to North Fork (except Panther Creek and the North Fork Salmon River) (150 miles)	Redband Trout Cutthroat Trout Bull Trout Whitefish	Native	General	Provide fishery supported by natural production. Periodically evaluate to determine if regulations need adjustment.
	Brook Trout	Incompatible		Promote harvest of Brook Trout with liberal regulations. Explore and implement management actions to reduce or eliminate Brook Trout where feasible and necessary to protect existing fisheries or native species.
	Chinook Salmon Steelhead	Wild/natural Hatchery-supported	Anadromous	Monitor parr abundance. Indian Creek is supplemented with eyed steelhead eggs as part of the SBT instream incubator program.
Panther Creek (33 miles)	Redband Trout Cutthroat Trout Bull Trout Whitefish	Native	General	Provide fishery supported by natural production. Periodically evaluate to determine if regulations need adjustment.
	Brook Trout	Incompatible		Promote harvest of Brook Trout with liberal regulations. Explore and implement management actions to reduce or eliminate Brook Trout where feasible and necessary to protect existing fisheries or native species.
	Steelhead	Wild/natural Hatchery-supported	Anadromous	Work with partners to restore anadromous fish populations through continued supplementation and habitat improvement projects. Monitor parr abundance and salmon spawning. Develop harvest strategies. Provide maximum yield of fish surplus to escapement goals
	Chinook Salmon	Wild/natural Hatchery-supported		

North Fork Salmon River (22 miles)	Redband Trout Cutthroat Trout Bull Trout Whitefish	Native	General	Provide fishery supported by natural production. Periodically evaluate to determine if regulations need adjustment.
	Brook Trout	Incompatible		Promote harvest of Brook Trout with liberal regulations. Explore and implement management actions to reduce or eliminate Brook Trout where feasible and necessary to protect existing fisheries or native species.
	Chinook Salmon Steelhead	Wild/natural	Anadromous	Continue to support habitat restoration activities to increase available spawning and rearing habitat. Annually monitor salmon and steelhead abundance, productivity, and life history diversity. Monitor parr abundance.
Tributaries to the North Fork Salmon River	Redband Trout Cutthroat Trout Bull Trout Whitefish	Native	General	Provide fishery supported by natural production. Periodically evaluate to determine if regulations need adjustment.
	Brook Trout	Incompatible		Promote reduction of Brook Trout through liberal regulations. Explore and implement management actions to reduce or eliminate Brook Trout where feasible and necessary to protect existing fisheries or native species.

12. Middle Fork Salmon River Drainage



Overview

The Middle Fork Salmon River (MFSR) lies in central Idaho in Valley, Custer, and Lemhi counties. The drainage flows northerly through the center of the Frank Church River of No Return Wilderness Area, and the main river is federally classified as wild, as part of the Wild and Scenic Rivers System. Bear Valley and Marsh Creek come together to form the headwaters of the MFSR. Other major tributaries include Rapid River, Indian Creek, Marble Creek, Loon Creek, Camas Creek, and Big Creek. The drainage area is 2,830 square miles and includes elevations from 10,050 feet at Mount McGuire in the Bighorn Crags, to 3,027 feet at the mouth. The USGS operates a stream gauge (# 13309220) near Middle Fork Lodge and another one at the mouth (# 13310199) near Shoup, ID. Mean annual discharge at the mouth from 1994 to 2024 averaged 2,805 cfs, with daily extremes ranging from 349 cfs to 28,600 cfs.

The MFSR drainage is extremely rugged and remote. Nearly the entire drainage area is National Forest land, with a few dispersed private inholdings. In 1931, the core of the MFSR drainage was designated as the Idaho Primitive Area, and in 1980 it was designated as the River of No Return Wilderness – later renamed the Frank Church River of No Return Wilderness. Thus, most of the MFSR drainage has been protected from development, logging, and road building that has impacted many other drainages in Idaho. Road access is limited to the headwaters reaches outside of the wilderness boundary. The principal means of access are aircraft, non-motorized boat, and primitive trail. Float boat use of the MFSR is regulated through a permit system administered by the U.S. Forest Service, which estimates approximately 10,000 float boaters descend the MFSR each year.

Most of the MFSR drainage has been relatively undisturbed by anthropogenic activities, and therefore exhibits excellent habitat quality. There has been some historic livestock grazing, tributary diversions to meet irrigation demands, and historical mining activities in the drainage. However, most of those activities have been eliminated since wilderness designation, and the habitat that had been affected is largely recovered.

The MFSR drainage supports a diversity of native resident and anadromous fish. Anadromous species include native, indigenous spring and summer Chinook Salmon, summer steelhead, and Pacific Lamprey. The MFSR is one of only four drainages in the Columbia basin that supports native steelhead classified as B-run because they are predominantly large fish which spend two or three years in the ocean. Both the Chinook Salmon and steelhead of the MFSR are adapted to the long migration distances necessary for their perpetuation. Preservation of the indigenous gene pools is the highest priority, as is rebuilding these runs. The key component to meeting this objective is improved Columbia and Snake River migration survival as habitat, hatcheries, and harvest are not issues in this drainage. Populations will be monitored to assess their status relative to management objectives.

Although the MFSR historically supported a major Chinook Salmon fishery, with annual harvest exceeding 2,000 fish in the late 1960s, non-treaty harvest has not been allowed for Chinook Salmon and steelhead since 1978 because of very low run sizes. MFSR steelhead are caught incidentally during fisheries in the mainstem Salmon River targeting hatchery steelhead. Although harvest opportunity is not expected for Chinook Salmon or steelhead in the MFSR in the next six years, the long-term goal is to provide low yield, quality fisheries on these native species. This goal is achievable only if juvenile migration survival through the Snake and Columbia migration corridor is improved.

Chinook Salmon and steelhead abundance and distribution is monitored extensively throughout the watershed, primarily by snorkeling, and also intensively in Marsh Creek and Big Creek; two major tributaries selected as index streams for the upper and lower Middle Fork watershed. Intensive monitoring includes frequent snorkeling, juvenile fish trapping and PIT tagging to obtain annual emigrant and smolt survival estimates, and in-stream PIT tag arrays to document returning adults sampled at Lower Granite Dam as part of a basin wide GSI project. Chinook Salmon spawning habitat throughout the entire watershed is surveyed annually to index the number of redds. Spawning ground surveys cover as much habitat as feasible and focus on priority spawning areas.

Native resident game species include Bull Trout, Redband Trout, Westslope Cutthroat Trout, and Mountain Whitefish. Brook Trout have also been observed during snorkel surveys in the mainstem MFSR. The mainstem MFSR and its tributaries have been managed with catch-and-release regulations for trout since 1972. Currently, the Westslope Cutthroat Trout fishery in the mainstem and tributaries provides outstanding catch rates.

White Sturgeon presence in the MFSR has long been suspected, but was not documented until 2015, when Department snorkel crews observed an adult White Sturgeon near Tappan Falls at river mile 36. Recently, Pacific Lamprey ammocoetes of various age classes were documented rearing in the middle and lower portions of the mainstem Middle Fork suggesting some level of production is occurring. Describing the distribution of lamprey throughout the Middle Fork system during this planning period will occur during standardized surveys for salmonid species.

The MFSR drainage contains approximately 328 HMLs that provide fishing opportunities for a variety of salmonids such as Westslope Cutthroat Trout, Rainbow Trout, Arctic Grayling, Golden Trout, Bull Trout, and Brook Trout (see High Mountain Lake Management). The largest concentration of HMLs in the MFSR is found in the Bighorn Crags.

Objectives and Strategies

1. Objective: Maintain and improve fish habitat and water quality within the MFSR drainage.

   Strategy: Work with land management agencies and landowners to continue protecting riparian areas and streambeds through development of appropriate grazing and livestock management plans.

   Strategy: Work with irrigators to improve irrigation practices, maintain and protect adequate instream flows, and screen all irrigation diversions throughout the drainage.

   Strategy: Participate in interagency mining oversight committees to review operating plans and work with regulatory agencies to require strict compliance with mining laws to protect water quality and fish populations. Develop monitoring programs for fish populations and fish habitat relative to mining activities, if needed.

2. Objective: Maintain/improve existing native populations of trout, steelhead and Chinook Salmon.

   Strategy: Manage hatchery supplemented Salmon River anadromous stocks to minimize straying into the MFSR.

   Strategy: Avoid stocking of hatchery fish in streams in the MFSR drainage.

   Strategy: Monitor native salmon and steelhead abundance, productivity, and life history diversity at select locations.

3. Objective: Preserve genetic integrity of native Westslope Cutthroat Trout and Bull Trout. Maintain conservation management to increase population sizes.

Strategy: Periodically evaluate to determine if regulations need adjustment.

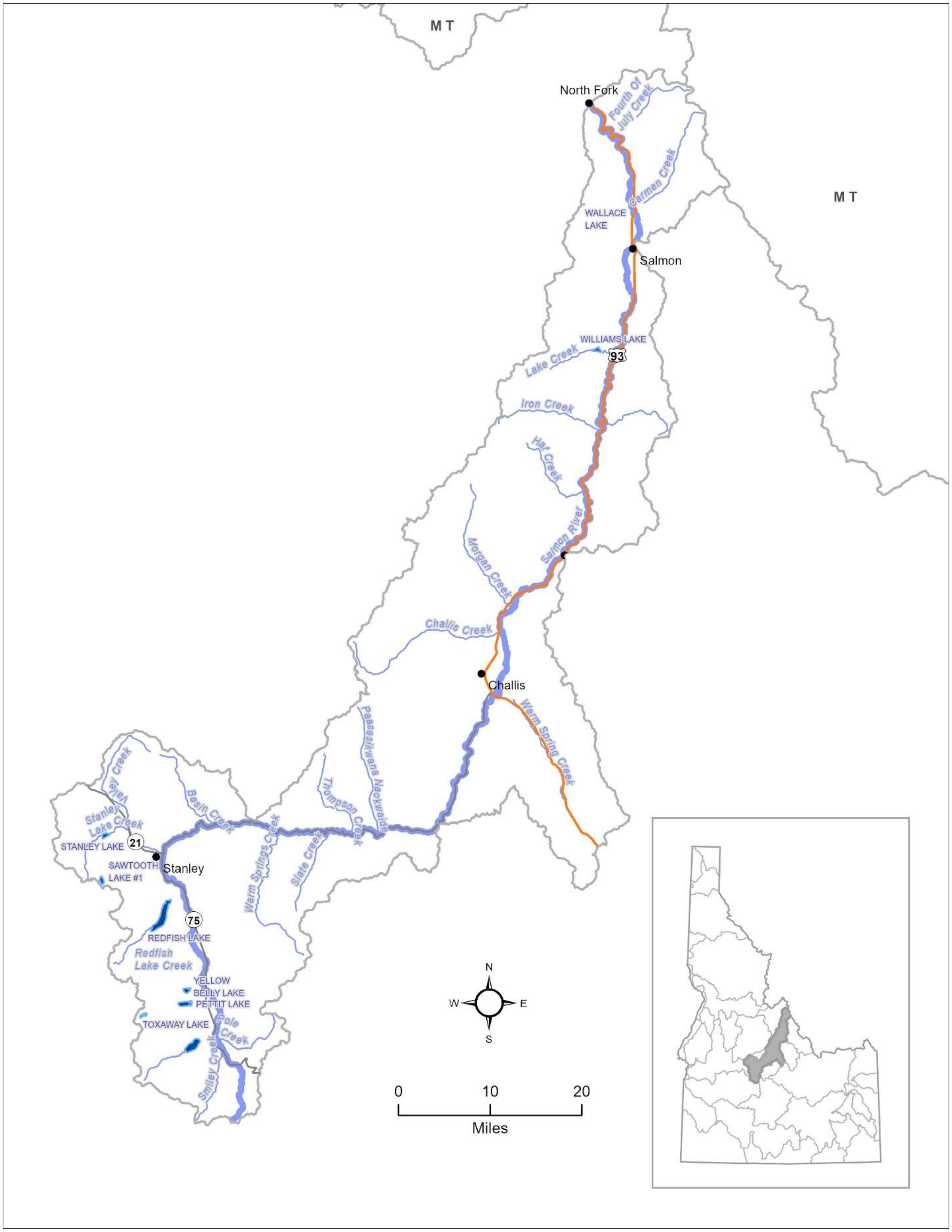
Strategy: All Westslope Cutthroat Trout and Rainbow Trout stocked in HMLs in the drainage should be sterile.

Strategy: Monitor fish populations and fisheries periodically to assess their status.

Strategy: Provide fish identification information to increase proper identification of Bull Trout. Encourage harvest of Brook Trout.

Drainage: Middle Fork Salmon River				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
From mouth to headwaters, including tributaries (183 miles)	Bull Trout Cutthroat Trout Redband Trout Whitefish	Native	General	Provide fishery supported by natural production. Periodically evaluate to determine if regulations need adjustment. Continue to provide harvest opportunity for whitefish.
	Brook Trout	Incompatible		Promote harvest of Brook Trout with liberal regulations. Explore and implement management actions to reduce or eliminate Brook Trout where feasible and necessary to protect existing fisheries or native species.
	Steelhead Chinook Salmon	Native	Anadromous	Maintain adult harvest closure until MFSR and upper Salmon River escapement goals are met. Monitor salmon spawning. Monitor parr abundance.
Big Creek, Marsh Creek, and their tributaries	Steelhead Chinook Salmon	Native	Anadromous	Monitor native salmon and steelhead abundance, productivity, and life history diversity in the lower (Big Creek) and upper (Marsh Creek) MFSR watersheds
Bear Valley Creek (30 miles)	Chinook Salmon	Native	Anadromous	Coordinate with SBT to monitor spawning escapement and juvenile production. Monitor salmon spawning. Monitor parr abundance.

13. Salmon River Drainage – North Fork to Headwaters



Overview

The portion of the Salmon River between North Fork and the headwaters is 173 miles long and drains approximately 6,000 square miles. Highways 93 and 75 border the entire stretch of river. The headwater area, upstream from Thompson Creek, is within the Sawtooth National Forest (Sawtooth National Recreation Area) and Salmon-Challis National Forest (Challis-Yankee Fork District), administered by the USFS. Major tributaries include the Lemhi, Pahsimeroi, East Fork Salmon, and Yankee Fork Salmon rivers, which are reported separately following this section.

The USGS measured stream flow at the city of Salmon (river mile 258.9, USGS gage #13302500) from 1913 to 1916 and from 1920 to 2024. Annual mean discharge ranged from 1,024 cfs in 1994 to 3,442 cfs in 2017 and averaged 1,923 cfs. Diversion above this station irrigate about 83,000 acres, of which about 900 acres are irrigated by withdrawals from groundwater (1966 determination).

A second gage measured stream flow below the confluence of the Salmon River and the Yankee Fork Salmon River (river mile 366.9, USGS gage #13296500) from 1922 to 1971, in 1974, from 1977 to 1991, and from 2001 to 2024. Annual mean discharge ranged from 467 cfs in 1977 to 1,856 cfs in 2017 and averaged 981 cfs. Diversion above this upper station irrigate about 10,500 acres (1971 determination).

A third streamflow gauge was established on the Salmon River above the confluence with the East Fork Salmon River (river mile 343.3, USGS gage #13297380) in April of 2022. To date, annual mean discharge has been measured at 1303 cfs.

The drainage is characterized by mountainous terrain bisected by river valleys. Major mountain ranges include the Bitterroot Range along the Idaho/Montana border; the Lemhi Range, southwest of the Lemhi River; the Lost River Range, southwest of the Pahsimeroi River; the White Cloud Peaks, east of the upper Salmon River; and the Sawtooth Range within the Sawtooth Wilderness, west of the upper Salmon River. Salmon, Challis, and Stanley are the only population centers in the upper Salmon River drainage, and ponds in each community support important local angling opportunities. Ranching, mining, and recreation are the major industries.

Many recreationists are attracted to the scenic beauty and recreational opportunities of the Sawtooth National Recreation Area. Numerous HMLs with road access in the Stanley area provide substantial recreational opportunity. They include Stanley, Redfish, Little Redfish, Yellowbelly, Pettit, Alturas and Perkins lakes. The granitic watershed yields few nutrients to the upper Salmon River and the large moraine lakes. Sterile waters and a short growing season render the lakes and streams incapable of producing the fish necessary for a large consumptive harvest under general fishing rules. Therefore, approximately 76,000 sterile hatchery Rainbow Trout are stocked annually in popular waters of the upper Salmon River drainage. Furthermore, fishing regulations in the mainstem Salmon River prohibit harvest of native trout in an effort to reestablish native resident stocks. In the spring the fishery is primarily supported by hatchery steelhead smolts.

Fluvial trout investigations identified important trout habitats in the mainstem Salmon River and associated tributaries. The mainstem Salmon River near Salmon is an important overwintering habitat for Bull Trout, Westslope Cutthroat Trout, and Redband Trout. Migrations into the Middle Fork Salmon River, North Fork Salmon River, and Lemhi River by Bull Trout and Cutthroat Trout wintering in this reach have been observed. The mainstem Salmon River near Challis is also an important overwintering habitat for Bull Trout, Westslope Cutthroat Trout, and Redband Trout. In the spring and early summer Redband Trout utilize the mainstem Salmon River, the Pahsimeroi

River, and other tributaries near Ellis for spawning whereas Cutthroat Trout spawning activities occur upstream of Challis in the tributaries between Clayton and Stanley. For spawning and summer rearing Bull Trout move into tributaries of the upper Salmon River, such as Warm Springs Creek and the East Fork Salmon River. Bull Trout spawning and rearing in upper Salmon River tributaries near Stanley (Yankee Fork Salmon River, Basin Creek, and Fourth of July Creek) demonstrated migrations into the Redfish Lake system for overwintering.

Historically angler use in the upper Salmon River has focused primarily on steelhead, and Chinook when seasons permitted. Angler use focusing on trout in the Salmon River has increased in recent years, particularly between Challis and Stanley.

Historically, this drainage supported sustainable anadromous and resident salmonid fisheries. Tributaries of the Salmon River between the North Fork and the headwaters provide critical spawning and rearing habitat, as well as thermal refugia for anadromous and resident species during the summer months. Maintaining or improving connectivity between mainstem and tributary habitats is vital to develop sustainable fisheries in this area. Both resident and anadromous populations will be monitored to assess their status relative to ESA recovery plans and fishery management objectives.

The mainstem Salmon River will be managed for exploitation of hatchery steelhead and Chinook Salmon. Anadromous fisheries management in the Salmon River from North Fork to the headwaters will emphasize maintaining natural spawning populations of Chinook and preserving and enhancing habitat quality. The Salmon River from Challis to the headwaters contains habitat for mainstem spawning Chinook. Many of the Salmon River headwater tributaries are meandering meadow streams in subalpine valleys and are critical spawning and rearing areas for spring Chinook. Fish access to most of these tributaries is impeded by irrigation diversions and dewatering. During this planning period the Department will continue to screen all diversions identified as impacting anadromous fish and continue maintenance on existing Department fish screens. The Department will also seek to improve access to these spawning and rearing locations.

The Sawtooth Fish Hatchery program on the Upper Salmon River includes a conservation component intended to increase the abundance of naturally spawning fish through an integrated supplementation effort. A portion of the broodstock is comprised of natural-origin adult Chinook. Additionally, returning hatchery-origin fish are released above the Sawtooth weir for natural spawning along with natural-origin returns. The minimum number of spawners is set at 300 fish. If that goal cannot be met, segregated fish are released above the weir. These guidelines are presented in the approved HGMP. Current monitoring includes ratios of spawners in each location, estimates of survival and replacement rates, and assessment of fish spawning distribution by origin via carcass surveys. The integrated/supplementation program is part of an ongoing evaluation to monitor its effectiveness and may be modified during the life of this plan.

Hatchery steelhead are trapped and spawned at IPC’s Pahsimeroi Fish Hatchery and at Sawtooth Fish Hatchery, a Lower Snake River Compensation Plan facility. Offspring from these facilities are reared at Niagara Springs, Hagerman National and Magic Valley fish hatcheries located on the Snake River in southern Idaho. Juveniles from these programs are transported to the upper Salmon River for release as yearling smolts. Most of the adult steelhead from these programs return after spending one year in the ocean. The Department is also working to develop a run of larger hatchery-origin steelhead of which the majority of adults return after spending two years in the ocean. Broodstock for these larger fish, oftentimes referred to as B-run steelhead, was sourced from Dworshak National Fish Hatchery in the Clearwater River basin. The primary objective of the program is to develop a locally adapted Upper Salmon River (USRB) stock of these larger steelhead. Historically the program has generally relied, at least partially, on broodstock from Dworshak National Fish Hatchery to support the program, however research has demonstrated that the locally adapted stock in the upper Salmon River returns at a significantly higher rate than does the Dworshak stock. The B-run program is now transitioning to use only locally adapted stock as the egg source.

In order to increase the number of USRB steelhead produced, the Department will use Pahsimeroi Fish Hatchery as an interim broodstock collection and spawning site. The Pahsimeroi Fish Hatchery will continue to act as an intermediate broodstock collection location until a permanent broodstock collection facility can be constructed. Current plans include working with the SBT to construct a weir and trapping facility in the Yankee Fork Salmon River to serve multiple objectives.

The Sockeye program was initiated in 1991. As a result of this program, there is now natural production in Redfish and Pettit lakes. The captive bloodstock program is expected to continue to support Sockeye production in these two lakes over the term of this plan. The completion of the Springfield Hatchery has increased stocking of juvenile Sockeye into Redfish Lake Creek. The Springfield Hatchery program has increased production from ~250,000 smolts to ~1 million smolts annually and is currently investigating and optimizing size at release and growth curve strategies to improve post-release survival. The objective of this release plan is to restore an anadromous life-history and transition to re-building the Redfish Lake population with anadromous adults to meet future harvest and ESA recovery objectives. Anadromous Sockeye Salmon are trapped at the Sawtooth Fish Hatchery and Redfish Lake Creek weirs. These returning fish are either produced within the hatchery program (e.g. smolt releases) or from natural spawners (natural and hatchery adults spawning in Redfish, Pettit or Alturas lakes). Anadromous adults are tracked during their upstream migration from Bonneville Dam to Lower Granite Dam. If environmental conditions or other passage barriers preclude natural migration, then trap and transport of sockeye from Lower Granite Dam to Eagle Fish Hatchery may be implemented.

During the last several decades, fishing effort on Stanley basin lowland lakes has declined appreciably, particularly in Redfish and Alturas lakes, while effort in Stanley Lake has remained steady or increased. This is likely due to the elimination of Rainbow Trout stocking in Redfish Lake after 1992, and poor returns of hatchery Rainbow Trout stocked in Alturas Lake, while a one-time stocking of Lake Trout in Stanley Lake in 1975 developed into a low density, trophy fishery. Additional efforts will be directed into improving angling opportunities in the Stanley basin Lakes.

In the previous planning period, the Department adopted the Stanley Lake Fisheries Management Plan to reduce the risk of Lake Trout establishment in surrounding Sawtooth Valley lakes, while preserving trophy Lake Trout angling opportunity in Stanley Lake. Based on input from the Stanley Lake Advisory Committee, the Department has worked to transition the Lake Trout population from fertile to sterile through large-scale removal efforts, as well as hatchery stocking and translocation of sterile Lake Trout would meet both objectives. The Department implemented these management actions beginning in the fall of 2019 by securing a PCSRF grant to contract removal netting efforts targeting the existing fertile Lake Trout population.

The Department contracted Hickey Brothers Research, LLC., to remove fertile Lake Trout from June 2020 and September 2023. The use of contracted equipment and personnel allowed for the use of over three miles of net to be fished daily. This, combined with other Department netting activities, resulted in the removal of 1,110 Lake Trout from Stanley Lake, which was greater than the upper limit of the population estimate (n = 1,014) developed in 2012. In addition to surpassing this target, Lake Trout relative abundance decreased by 93%, further indicating that the Lake Trout population is severely reduced, nearly eliminated, and no longer a risk to nearby Sockeye Salmon recovery lakes.

As also outlined in the Stanley Lake Fisheries Management Plan, the stocking of hatchery sterile Lake Trout is intended to replace the juvenile component of the Stanley Lake fishery lost through the removal efforts. The Department began stocking sterile hatchery Lake Trout (~11") from Grace Hatchery beginning in the fall of 2020. This has occurred annually through the last management period and will occur into the future to restore and maintain the Lake Trout fishery. The primary concern of anglers during the development of the Stanley Lake Fisheries Management Plan was maintaining the trophy component of this fishery. While hatchery stocking described above would replace the juvenile component, the trophy component would not be restored for 15 - 20 years, given slow growth rates. In order to more quickly meet angler preferences, the Department will consider translocating sterile or all male Lake Trout from appropriate sources, if feasible. In the next management period, additional options to rebuild the Stanley Lake trophy Lake Trout fishery, while maintaining the protections to neighboring Sockeye recovery lakes, should be explored.

Within the headwaters of the Salmon River there are approximately 187 HMLs totaling approximately 5000 acres within the Sawtooth and Cecil D. Andrus-White Cloud Peaks Wilderness areas provide fishing opportunity for a variety of salmonids such as Westslope Cutthroat Trout, Rainbow Trout, Arctic Grayling, Golden Trout, Bull Trout, Brook Trout, and Blueback Trout (*Salvelinus alpinus oquassa*) in a wilderness setting for backpacking enthusiasts (see High Mountain Lake Management). The Blueback Trout, formerly the Sunapee Trout, was first introduced into HMLs of the Sawtooth Range in 1925. The Idaho population of this exotic char is the only population outside of its native range of northeastern New England and southeastern Canada, where only a few populations remain. While this species has disappeared across much of its native range, genetic evaluation of those found in Idaho revealed hybridization with Brook Trout, which led to the recommendation to not use these fish to re-establish populations within their native range (Kircheis, et al. 1995). Although unsuitable for use within their native range, they still provide a unique angling opportunity for high mountain lake anglers in Idaho.

Objectives and Strategies

1. Objective: Maintain/improve existing wild/natural populations of native trout, Chinook Salmon, and steelhead.

    Strategy: Sustain existing wild/natural populations through natural production. Limit out-planting of hatchery salmon, other than direct hatchery juvenile releases and adult recycle releases for sport fishing, to supplementation research sites and areas devoid of naturally producing populations of salmon. Continue to monitor smolt production and survival.

    Strategy: Monitor wild/natural salmon and steelhead abundance, productivity, and life history diversity at select locations.

2. Objective: Improve the quality of resident trout fishing in the mainstem Salmon River during the summer months.

    Strategy: Use appropriate fishing rules to maintain and enhance Cutthroat Trout, Bull Trout and Redband Trout populations in the Salmon River.

Strategy: Improve tributary habitat and connectivity to provide spawning, rearing and thermal refugia for resident trout populations. Work with federal land managers and private irrigators to alleviate passage problems in main-river and tributaries due to irrigation diversions and dewatering.

Strategy: Explore and implement management actions to reduce or eliminate Brook Trout from Salmon River tributaries where feasible and necessary to protect existing fisheries or native species.

Strategy: Periodically evaluate use, catch rate, and angler effort targeting trout in the upper Salmon River.

3. Objective: Reestablish Sockeye Salmon natural production in historic rearing lakes using both captive and anadromous adults.

   Strategy: Evaluate reintroductions of Sockeye Salmon into Redfish, Alturas, and Pettit lakes.

   Strategy: Investigate hatchery release strategies and rearing practices to optimize post-release survival and abundance of juvenile Sockeye Salmon and anadromous adult returns.

4. Objective: Maintain and improve fish habitat in mainstem and tributaries for all life-stages.

   Strategy: Work cooperatively with willing landowners through the Upper Salmon basin Watershed Project and other cooperators. In priority areas, maintain and enhance spawning and rearing areas for resident and anadromous fishes. Encourage land management activities on public and private properties that improve the quality of habitat. Participate in grazing allotment management plan reviews with federal land management agencies. Encourage implementation of grazing management plans that reduce impacts on fish productivity and survival.

   Strategy: Participate in interagency mining oversight committees to review operating plans. Work with regulatory agencies to require compliance with mining laws to protect water quality and fish populations. Develop monitoring programs for fish populations and fish habitat relative to mining activities, if needed.

   Strategy: Continue to monitor and evaluate benefits from habitat improvement projects.

   Strategy: Maintain or improve in-stream flows through critical review of water right applications, and by working with private irrigators and irrigation districts to pursue water savings projects. Work with IDWR on strategies such as water lease/rentals, sources switches, and minimum flow agreements.

   Strategy: Work with federal land managers and private irrigators to alleviate passage problems in main-river and tributaries due to irrigation diversions and dewatering.

5. Objective: Provide and maintain a diversity of fishing opportunities to meet angler demand.

Strategy: Within the biological constraints and environmental compliance surrounding ESA-listed species, provide an array of lake and river/stream fishing opportunities to include:

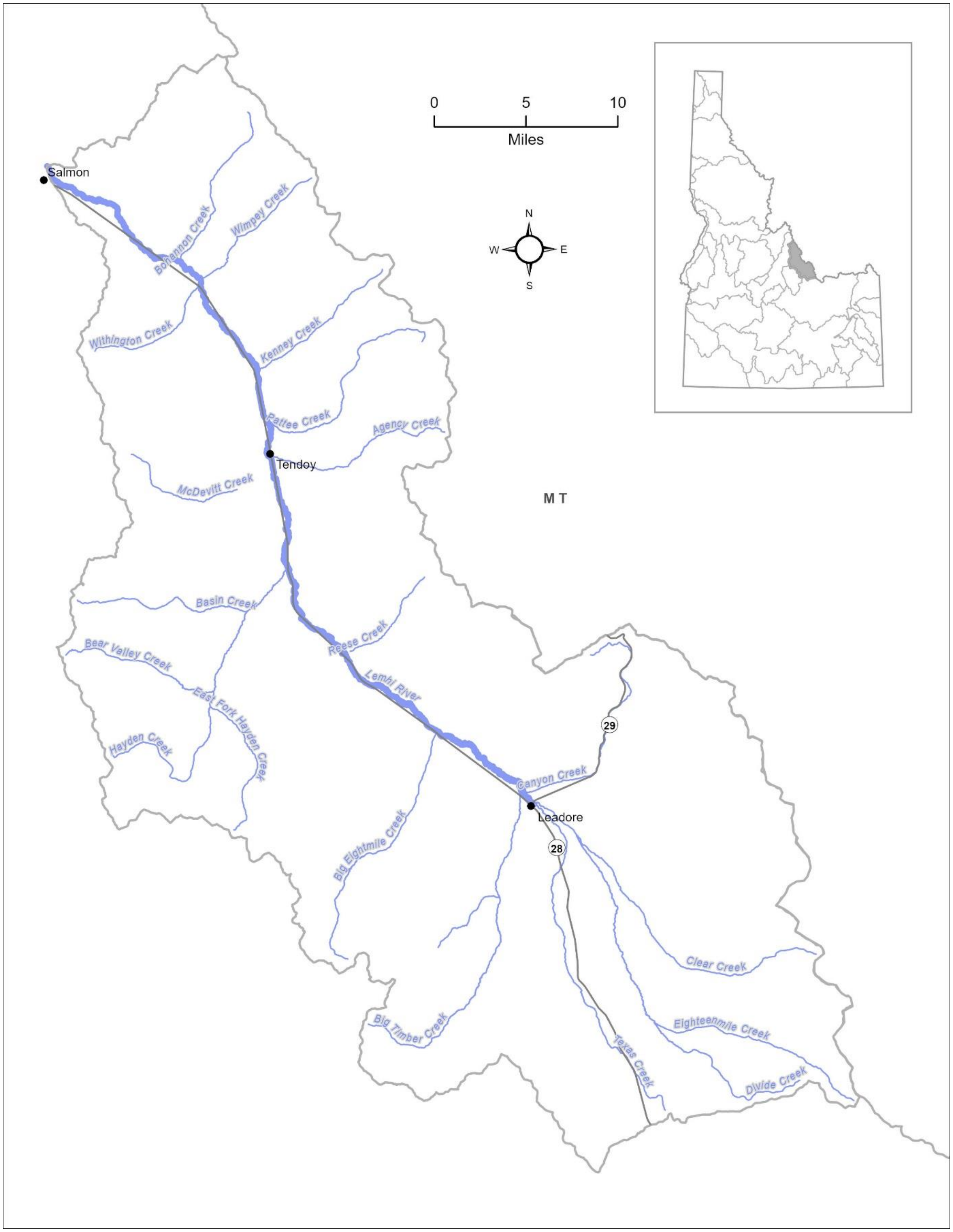
- Harvest opportunity for hatchery steelhead and Chinook salmon across as much of the Salmon River as possible, when run size permits
- Yield and quality fisheries for a variety of species in HMLs
- Maintain opportunity for kokanee fisheries
- Evaluate the potential introduction of panfish to selected waterbodies to provide new and unique angling opportunities in the Salmon Region

Strategy: Periodically evaluate angler return to creel of hatchery stocked Rainbow Trout and adjust stocking frequency as needed.

Drainage: Salmon River-North Fork to Headwaters				
Waterbody	Species of Interest	Management Strategies		Additional Management Directions
		Primary	Secondary	
Salmon River (190 miles)	Bull Trout Cutthroat Trout Redband Trout Whitefish	Native	General	Provide fishery supported by natural production. Periodically evaluate to determine if regulations need adjustment. Enhance populations of wild trout by directing harvest on hatchery fish only (identified by adipose fin clips). Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
	Rainbow Trout (clipped)	Hatchery-supported	General	Stock hatchery trout of catchable size to provide put-and-take fishery.
	Brook Trout	Incompatible		Promote harvest of Brook Trout with liberal regulations. Explore and implement management actions to reduce or eliminate Brook Trout where feasible and necessary to protect existing fisheries or native species.
	Steelhead Chinook Salmon	Wild/natural Hatchery-supported	Anadromous	Maintain adult harvest closure until upper Salmon River escapement goals are met. Monitor parr abundance and salmon spawning. Annually monitor salmon and steelhead abundance, productivity, and life history diversity upstream of Sawtooth Fish Hatchery. Provide maximum yield of fish surplus to escapement goals
Salmon River tributaries between North Fork and headwaters (excluding N. Fork, Lemhi, Pahsimeroi, E. Fork, and Yankee Fork rivers) (230 miles)	Redband Trout Cutthroat Trout Bull Trout Whitefish	Native	General	Provide harvest fishery supported by natural production. Periodically evaluate to determine if regulations need adjustment. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
	Brook Trout	Incompatible		Promote harvest of Brook Trout with liberal regulations. Explore and implement management actions to reduce or eliminate Brook Trout where feasible and necessary to protect existing fisheries or native species.
	Chinook Salmon Steelhead	Wild/natural	Anadromous	Maintain adult harvest closure. Monitor parr abundance and salmon spawning.
Williams Lake (180 acres), and Lake Creek (5 miles)	Redband Trout	Wild/natural	General	Provide fishery supported by natural production. Periodically evaluate to determine if regulations need adjustment. Work with BLM, USFS, IDEQ, and local sewer district and homeowners association to control sources of nutrient loading and propose long term water quality improvement solutions.
	Bull Trout	Native	General	

Lowland Lakes/Drive-to Alpine lakes: Wallace Lake (10 acres), Iron Lake (18 acres), Mosquito Flat Reservoir (37 acres), Bayhorse Lakes (22 acres)	Rainbow Trout Cutthroat Trout Kokanee Tiger Trout Lake Trout Brook Trout	Hatchery-supported Incompatible		Utilize predators as a biological control of overpopulated and/or undesirable species, where necessary. Continue hatchery stocking to support angling opportunity. Evaluate stocking of non-*Oncorhynchus* spp. to eliminate gill lice occurrence in selected waterbodies.
Stanley Lake (185 acres)	Lake Trout Rainbow Trout Cutthroat Trout Kokanee Brook Trout	Hatchery-supported Wild/natural	General General	Continue actions necessary to provide trophy Lake Trout angling opportunity, while minimizing risk to neighboring Sockeye Salmon recovery lakes. Continue stocking catchable Rainbow Trout to provide harvest fishery. Evaluate Westslope Cutthroat Trout fry stocking determine contributions to the fishery. Provide harvest fishery on naturally reproducing Brook Trout and kokanee populations.
Sawtooth Valley Lakes: Redfish Lake (1,500 acres), Pettit Lake (400 acres), Alturas Lake (840 acres), and tributaries	Westslope Cutthroat Trout Kokanee Bull Trout Rainbow Trout Brook Trout Sockeye Salmon	Wild/natural Hatchery-supported Incompatible Wild/natural Hatchery-supported	General Conservation	Continue to provide harvest opportunity for Westslope Cutthroat Trout. Develop management plan focused on kokanee management. Provide harvest fishery with catchable Rainbow Trout where compatible Promote harvest of Brook Trout with liberal regulations. Explore and implement management actions to reduce or eliminate Brook Trout where feasible and necessary to protect existing fisheries or native species. Continue efforts to prevent extinction of Sockeye Salmon. Evaluate potential for experimental reintroduction into Alturas Lake.
Yellowbelly Lake (190 acres)	Cutthroat Trout Rainbow Trout Bull Trout Brook Trout	Wild/natural Incompatible		Provide harvest fishery supported by natural production. Periodically evaluate to determine if regulations need adjustment and if stocking is warranted. Promote harvest of Brook Trout with liberal regulations. Explore and implement management actions to reduce or eliminate Brook Trout where feasible and necessary to protect existing fisheries or native species.
Perkins Lake (51 acres)	Rainbow Trout	Wild/natural Hatchery-supported	General	Provide harvest fishery with stocked Rainbow Trout and some natural production.

14. Lemhi River Drainage



Overview

The Lemhi River flows 60 miles from the confluence of Texas and Eighteenmile creeks to the Salmon River at river mile 258.5 at the city of Salmon. The river drains approximately 1,290 square miles and flows through a broad valley of fertile agricultural land between the Bitterroot and Lemhi mountain ranges.

The USGS measures stream flow at three locations in the Lemhi River. Historically, stream flow has been measured near the town of Lemhi, and below the L5 irrigation diversion approximately 5.75 mi southeast of Salmon, Idaho. A third gauge, located at McFarland Campground, approximately 14 miles downstream from Leadore, ID was added in August of 2022 to monitor stream flows in the upper river. This gauge was installed partly to monitor upper Lemhi River flushing flows as part of the 2023 Lemhi River Basin Comprehensive Settlement Agreement.

The valley includes approximately 37,000 acres of land irrigated for hay production and grazing. Flood irrigation via an extensive network of ditches is the most common method for watering crops. All major mainstem ditches are screened and have bypass systems to prevent fish entrainment losses. Historically, the lower reaches of the river were seasonally dewatered during low flow years, which without intervention, impedes adult and juvenile salmon and steelhead migration.

The drainage supports runs of both spring Chinook Salmon and summer steelhead. Habitat has been reduced by stream alterations, water withdrawals, passage barriers, and disconnected floodplains, though some relatively intact habitat remains in the upper reaches of the river and in the Hayden Creek watershed. Populations will be monitored to assess their status relative to management objectives. Results will be used to guide future habitat restoration.

Hatchery Chinook have not been out-planted into this drainage in large numbers since 1982 when the Hayden Creek Hatchery was closed. The population has sustained itself through natural production. Hatchery steelhead were out-planted annually through the 1980s, and in the lower mainstem and lower Hayden Creek intermittently through the mid-2000s.

Extensive habitat restoration work and irrigation diversion screening to reduce fish entrainment has been undertaken in the Lemhi River drainage. Previous work includes extensive diversion screening on the mainstem Lemhi River and its tributaries, cooperative agreements with water users to maintain minimum streamflows, and tributary reconnection projects. Currently, fish habitat staff are implementing and developing complex floodplain connectivity projects with significant modifications to channel morphology and aggressive large woody debris treatments. Over the next six years, anadromous management actions in the Lemhi River will emphasize maintaining natural spawning populations of spring Chinook and summer steelhead but may include focused supplementation efforts in newly reconnected or restored habitats.

In 2023, water users and state agency stakeholders completed the Lemhi River Settlement Agreement. This agreement specifies a minimum flow of 420 cfs (i.e. flushing flow) for a 72-hour period as measured at the McFarland Campground gage between March 15th and July 6th each year. This flushing flow will be exercised to meet this flow for two years out of five-years on a rolling basis. The conditions may be met naturally if Lemhi River flows exceed 420 cfs for a 72-hour period or with a combination of Lemhi River baseflow and conditioned streamflow maintenance water rights delivered to meet minimum stream flows. The goal of this agreement is to conserve, restore, and enhance sufficient habitat to sustain viable fish populations within the Lemhi River basin while protecting private property rights and preserving and enhancing the farming and ranching lifestyle and economy of the Lemhi River basin.

Native resident trout include fluvial and resident Redband Trout, Cutthroat Trout, and Bull Trout. Brook Trout are present in limited numbers, primarily in the uppermost portions of the watershed. The Redband Trout population has increased since the early 1990s in response to habitat improvement projects and irrigation diversion screening as well as restrictive regulations implemented in 1996. Despite increased Redband Trout abundance, the Lemhi River trout fishery remains underutilized due to a limited amount of angler access. There are currently only 6 recognized public access points to the Lemhi River along its 60 stream miles. There is a need for increased angler access to this resource.

The Lemhi River Drainage contains approximately 37 HMLs totaling nearly 421 that will be managed following the principles described in the High Mountain Lake Management section. Additionally, the Department will collect baseline data on HMLs in cooperation with USFS and evaluate the control of stunted Brook Trout populations with experimental measures.

Objectives and Strategies

1. Objective: Maintain/improve existing natural spawning populations of salmon and steelhead.

   Strategy: Limit out-planting of hatchery fish to support supplementation research, or to areas devoid of naturally producing populations, including areas associated with habitat and fish passage improvement projects.

   Strategy: Monitor wild/natural salmon and steelhead abundance, productivity, and life history diversity at select locations. Relate fish performance to habitat improvements.

2. Objective: Protect, enhance, connect, and restore aquatic habitats throughout the Lemhi River drainage.

   Strategy: Continue to work cooperatively with willing landowners through the Upper Salmon basin Watershed Project, in priority areas, to maintain and enhance spawning and rearing areas for resident and anadromous fishes.

   Strategy: Improve flow in main-stem river reaches and tributaries through water transactions programs, partnerships with irrigators, irrigation efficiency actions, and review of water right applications.

   Strategy: Improve or provide fish passage for all life stages of salmonids throughout the watershed in collaboration with partners and landowners.

3. Objective: Increase angler access to the Lemhi River.

   Strategy: Negotiate with landowners to increase angler access by establishing fishing by permission, easements or purchases.

4. Objective: Minimize entrainment of juvenile salmon and steelhead to irrigation diversions on rivers and streams.

Strategy: Install screens in any identified unscreened ditches.

Strategy: Evaluate the current screening program to explore opportunities for improvements.

5. Objective: Maintain or improve the quality of fishing opportunities for native Trout in the mainstem Lemhi River.

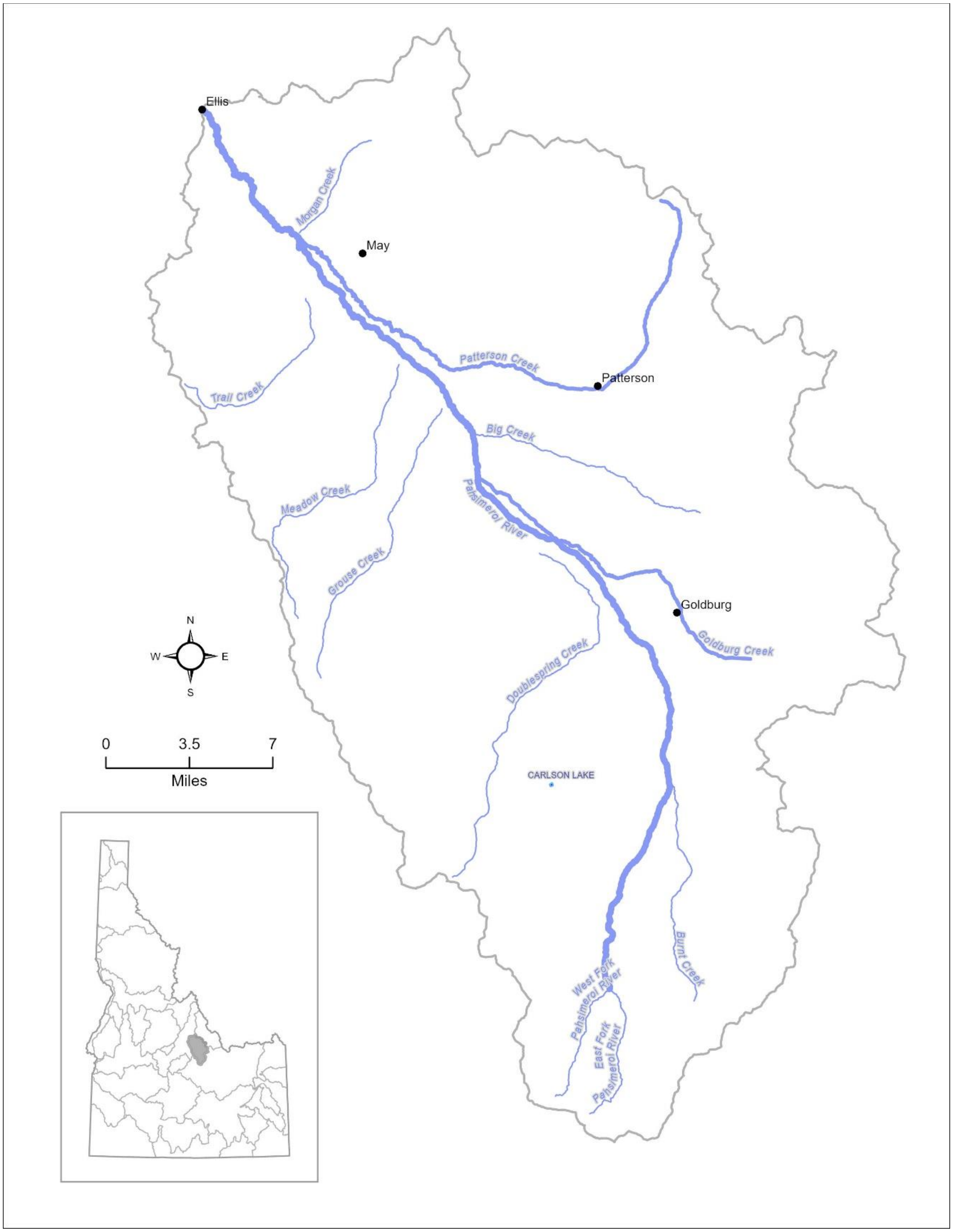
Strategy: Establish long-term population monitoring of the trout population and angler use/success through regularly scheduled surveys.

Strategy: Improve connection to tributary environments so fluvial fish have access to mainstem environments.

Strategy: Use appropriate fishing rules to maintain and enhance Westslope Cutthroat Trout, Bull Trout, and Redband Trout populations.

Drainage: Lemhi River				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
Lemhi River (60 miles)	Redband Trout Cutthroat Trout Bull Trout Whitefish	Native	General	Provide harvest fishery for naturally produced Redband Trout. Periodically evaluate to determine if regulations need adjustment. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance. Continue to provide harvest opportunity for whitefish.
	Brook Trout	Incompatible		Promote harvest of Brook Trout with liberal regulations. Explore and implement management actions to reduce or eliminate Brook Trout where feasible and necessary to protect existing fisheries or native species.
	Steelhead Chinook Salmon	Wild/natural	Anadromous	Monitor parr abundance and salmon spawning. Annually monitor salmon and steelhead abundance, productivity, and life history diversity near the mouth and upstream from the Hayden Creek confluence. Enhance, protect, and restore aquatic habitat.
Lemhi River tributaries (150 miles)	Redband Trout Cutthroat Trout Bull Trout Whitefish	Native	General	Provide fishery for naturally produced trout. Continue to provide harvest opportunity for Whitefish. Periodically evaluate to determine if regulations need adjustment. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
	Brook Trout	Incompatible		Promote harvest of Brook Trout with liberal regulations. Explore and implement management actions to reduce or eliminate Brook Trout where feasible and necessary to protect existing fisheries or native species
	Steelhead Chinook Salmon	Wild/natural	Anadromous	Monitor parr abundance and salmon spawning. Annually monitor salmon and steelhead abundance, productivity, and life history diversity from Hayden Creek. Enhance, protect, and restore aquatic habitat.
Meadow Lake (12 acres)	Redband Trout Cutthroat Trout	Hatchery-supported	General	Provide put-and-take fishery. Stock Cutthroat Trout fry to increase angling opportunities.

15. Pahsimeroi River Drainage



Overview

The Pahsimeroi Valley lies between the Lemhi and Lost River mountain ranges. Water percolates through a broad, pervious alluvial fan in the upper valley and enters the Pahsimeroi River through ground water and springs lower in the valley. Therefore, productivity in the river is higher than most streams in the upper Salmon River basin. The drainage is approximately 845 square miles.

The USGS measured stream flow in the Pahsimeroi River near its mouth at Ellis, Idaho, from 1985 to 2024. Annual mean discharge, ranged from 167 cfs in 2004 to 329 cfs in 1985 and averaged 229 cfs.

It is suspected that before agricultural development, the Pahsimeroi River seasonally flowed 49 miles from the confluence of the East and West Forks to the Salmon River at river mile 304. Now most of the bottom lands of the Pahsimeroi Valley are privately owned and heavily irrigated (particularly in the lower drainage) for hay and grazing. Flows in the Pahsimeroi River are interrupted at several locations on the valley floor due to irrigation withdrawal. During the irrigation season several river sections are inaccessible to fish for spawning and major tributaries are dewatered almost year-round. Habitat restoration actions in the Pahsimeroi River have focused on diversion screening, diversion consolidation, increasing in-stream complexity, side channel activation, and floodplain connectivity.

Pahsimeroi Fish Hatchery on the Pahsimeroi River, owned and funded by IPC and operated by the Department, mitigates for lost anadromous production above the Hells Canyon dam complex. The hatchery is comprised of two facilities: the lower facility (located within one mile of the mouth of the river) includes a weir, fish ladder and trap and serves as the broodstock collection and spawning location, while the upper facility (approximately 8 miles upstream) serves as the incubation and rearing location. Summer Chinook Salmon are trapped and reared at the facility. The Pahsimeroi Fish Hatchery program includes a conservation component intended to increase the abundance of naturally spawning fish through an integrated supplementation effort. Starting in 2010 and guided by the HGMP, a portion of the production at Pahsimeroi Fish Hatchery is integrated with Chinook of natural origin. Additionally, returning integrated hatchery-origin fish are released above the Pahsimeroi weir for natural spawning along with natural-origin returns. The minimum number of spawners is set at 300 fish. If that goal cannot be met with returning natural and integrated adults, segregated fish are released above the weir. The integrated/supplementation program is part of an ongoing evaluation to monitor its effectiveness and may be modified during the life of this plan. A-run steelhead are also trapped at the weir, and broodstock for upper Salmon River B-run steelhead may be collected in some years. However, the offspring are reared at fish hatcheries in the Hagerman Valley. Adult steelhead returning to the Pahsimeroi Fish Hatchery contribute substantially to the steelhead fishery in the upper Salmon River.

Anadromous management actions in the Pahsimeroi River will emphasize maintaining existing wild/natural spawning populations of Chinook and steelhead. Populations will be monitored to assess their status relative to management objectives.

Native resident fish species include inland fluvial and resident Redband Trout, a remnant fluvial Bull Trout population in the mainstem and resident populations primarily in tributaries, Mountain Whitefish, and Westslope Cutthroat Trout. Non-native Brook Trout are also present, particularly in the upper Pahsimeroi watershed. The number of large fluvial Redband Trout migrating from the Salmon River into the Pahsimeroi River for spawning has been increasing over the past 20 years, and while this population contributes significantly to the trout fishery in Salmon River, the trout fishery within the Pahsimeroi River remains underutilized due to limited access. There is currently only 1 recognized public access (Department owned) in the lower 26 miles of the main stem Pahsimeroi River. There is a need for increased angler access to this resource.

The Pahsimeroi drainage contains approximately 10 HMLs totaling around 71 acres throughout the headwater areas of the valley that are managed according to the High Mountain Lake Management section. HMLs provide fishing opportunities for a variety of species such as Westslope Cutthroat Trout, Rainbow Trout, Arctic Grayling, Golden Trout, Bull Trout, Brook Trout, tiger trout, and tiger muskie. The Department will collect baseline data on HMLs in cooperation with USFS and evaluate the control of stunted Brook Trout populations with experimental measures. Carlson Lake, located between the upper Pahsimeroi River and Doublespring Creek, supports a self-sustaining Brook Trout population that has historically overpopulated. Management actions over the past 25 years have established a tiger muskie stocking regime that has reduced the Brook Trout population and improved the size structure of this fishery, while also providing a unique angling opportunity for large tiger muskie. In nearby Merriam Lake, Brook Trout reduction efforts using tiger muskie were less successful, and tiger trout have been introduced as an alternative to control Brook Trout.

Objectives and Strategies

1. Objective: Maintain/improve existing wild/natural populations of native trout, Chinook salmon and steelhead.

   Strategy: Sustain existing populations through natural reproduction. Implement HGMP for Pahsimeroi Chinook Salmon hatchery program.

   Strategy: Monitor wild/natural salmon and steelhead abundance, productivity, and life history diversity.

2. Objective: Enhance, reconnect, protect, and restore aquatic habitats throughout the Pahsimeroi River drainage.

   Strategy: Continue to work cooperatively with willing landowners through the Upper Salmon basin Watershed Project, in priority areas, to maintain and enhance critical spawning and rearing areas for resident and anadromous fishes.

   Strategy: Improve flow in main-stem river reaches and tributaries through water transactions programs, partnerships with irrigators, irrigation efficiency actions, and critical review of water right applications.

   Strategy: Improve or provide fish passage for all life stages of salmonids throughout the watershed in collaboration with partners and landowners.

3. Objective: Increase angler access to the Pahsimeroi River.

   Strategy: Negotiate with landowners to increase angler access by establishing fishing by permission, easements or purchases.

4. Objective: Minimize entrainment of juvenile salmon, steelhead, and native resident fish in irrigation diversions on rivers and streams.

Strategy: Install screens in any identified unscreened ditches.

Strategy: Evaluate the current screening program to explore opportunities for improvements.

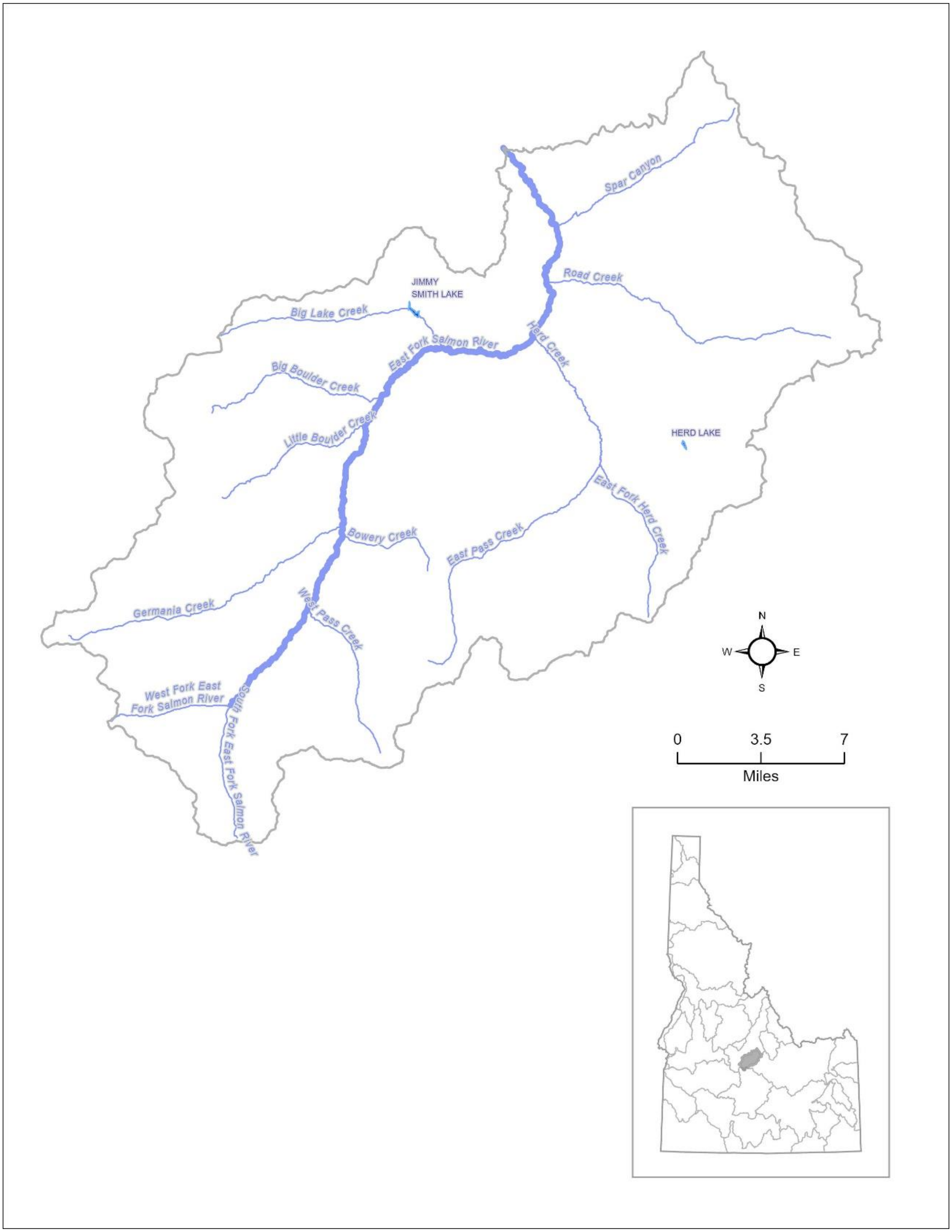
5. Objective: Manage for quality resident trout fishing in the mainstem Pahsimeroi River.

Strategy: Establish long-term population monitoring of the trout population and angler use/success through regularly scheduled sampling surveys.

Strategy: Periodically monitor angler use and exploitation to determine whether regulations are appropriate or need to be altered.

Drainage: Pahsimeroi				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
Pahsimeroi River (60 miles)	Bull Trout Cutthroat Trout Redband Trout Whitefish	Native	General	Provide fishery supported by natural production. Periodically evaluate to determine if regulations need adjustment. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
	Brook Trout	Incompatible		Promote harvest of Brook Trout with liberal regulations. Explore and implement management actions to reduce or eliminate Brook Trout where feasible and necessary to protect existing fisheries or native species.
	Steelhead Chinook Salmon	Wild/natural Hatchery-supported	Anadromous	Trap sufficient numbers of hatchery Chinook Salmon and steelhead for production programs. Annually monitor salmon and steelhead abundance, productivity, and life history diversity upstream from the Pahsimeroi Hatchery weir. Manage Chinook Salmon as an integrated population, following prescriptions and guidelines in FMEP and HGMP.
Pahsimeroi River tributaries (130 miles)	Bull Trout Cutthroat Trout Redband Trout Whitefish	Native	General	Provide harvest fishery for naturally produced trout and Whitefish Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
	Brook Trout	Incompatible		Promote harvest of Brook Trout with liberal regulations. Explore and implement management actions to reduce or eliminate Brook Trout where feasible and necessary to protect existing fisheries or native species.
	Steelhead Chinook Salmon	Wild/natural Hatchery-supported	Anadromous	Monitor parr abundance.
Carlson Lake (10 acres)	Brook Trout Tiger Muskie	Wild Hatchery-supported	General	Improve size structure of fish through population reduction efforts.

<u>16.</u> East Fork Salmon River Drainage



Overview

The East Fork Salmon River flows 33 miles from the confluence of the South and West Forks before entering the Salmon River at river mile 343, approximately 19 miles southwest of Challis, ID. The drainage area is 540 square miles and includes the White Cloud Peaks to the west and the Boulder Mountains to the south.

The USGS measured stream flow in the East Fork Salmon River about 4 miles upstream of its mouth from 1929 to 1939 and from 1974 to 1981. Annual mean discharge, ranged from 122 cfs in 1934 to 390 cfs in 1974 and averaged 231 cfs.

Water supply and quality in the upper drainage is excellent for fish spawning and rearing. In the lower drainage, the river bisects a zone of volcanic soils, which are highly erosive. Lack of vegetative cover, channelization, diking, woody debris removal, and livestock grazing in the riparian zone can result in substantial sediment loads in the river, particularly during spring runoff.

In 2015, nearly 276,000 acres, primarily in the East Fork Salmon River drainage, were added to the National Wilderness Preservation System with a 'Wilderness' designation. The three new Wilderness areas are: the Hemingway-Boulders (67,998 acres), Jim McClure-Jerry Peak (116,898 acres), and the Cecil D. Andrus-White Clouds (90,769 acres). These newly designated wilderness areas encompass much of the headwaters and major tributaries to the East Fork Salmon River, as well as 142 HMLs approximating 504 acres that follow statewide management principles (High Mountain Lake Management).

The drainage supports runs of spring and summer Chinook Salmon and summer steelhead trout. The East Fork is an important tributary for salmon spawning and rearing in the upper Salmon River drainage. A trapping facility, funded through the Lower Snake River Compensation Plan, was constructed in 1984 at approximately river mile 18, to collect natural and hatchery steelhead as part of the Sawtooth Hatchery operation. Naturally-produced steelhead are collected for a local broodstock supplementation program. Operation of this facility was transitioned from the Department to the SBT in 2020. Populations will be monitored to assess their status relative to management objectives.

The East Fork Salmon River also provides important spawning and rearing habitat for migratory Bull Trout and Westslope Cutthroat Trout that winter in the Salmon River between Challis and Salmon. Migrations between wintering areas in the Salmon River and spawning locations in the East Fork Salmon River and its tributaries average approximately 40 stream miles. The main stem of the East Fork Salmon River provides a quality fishery for Westslope Cutthroat Trout, Bull Trout, and Redband Trout but is underutilized due to limited access. The lower 20 miles of the East Fork Salmon River is primarily in private ownership, with only a few small parcels of BLM that provide limited access to the river. Anglers would benefit from increased access to this resource.

The East Fork Salmon River drainage contains two lowland lakes and 140 HMLs. Lowland lake fisheries include Jimmy Smith Lake and Herd Lake which are both natural lakes that maintain wild, self-sustaining populations of Rainbow Trout. HMLs provide fishing opportunities for a variety of salmonids such as Westslope Cutthroat Trout, Rainbow Trout, Arctic Grayling, Golden Trout, Bull Trout, and Brook Trout. Estimated recreational use is highest within the Cecil D. Andrus-White Clouds Wilderness Area which contains 66% (93 of 140) of the drainage's HMLs.

Objectives and Strategies

1. Objective: Maintain/improve existing natural spawning populations of salmon and steelhead.

   Strategy: Sustain existing population through natural reproduction. Limit out-planting of hatchery fish, other than direct hatchery smolt releases, to support supplementation research and areas devoid of naturally producing populations of spring and summer salmon and summer steelhead.

   Strategy: Monitor wild salmon and steelhead abundance, productivity, and life history diversity.

2. Objective: Enhance, reconnect, protect, and restore aquatic habitats throughout the East Fork Salmon River drainage.

   Strategy: Continue to work cooperatively with willing landowners through the Upper Salmon basin Watershed Project, in priority areas, to maintain and enhance critical spawning and rearing areas for resident and anadromous fishes.

   Strategy: Improve flow in main-stem river reaches and tributaries through water transactions programs, partnerships with irrigators, irrigation efficiency actions, and critical review of water right applications.

   Strategy: Improve or provide fish passage for all life stages of salmonids throughout the watershed in collaboration with partners and landowners.

3. Objective: Minimize entrainment of juvenile salmon, steelhead, and resident native fish in irrigation diversions on rivers and streams.

   Strategy: Install screens in any identified unscreened ditches.

   Strategy: Evaluate the current screening program to explore opportunities for improvements.

4. Objective: Improve the quality of resident trout fishing within the East Fork Salmon River watershed.

   Strategy: Use appropriate fishing rules to maintain and enhance Bull Trout, Westslope Cutthroat Trout, and Redband Trout populations.

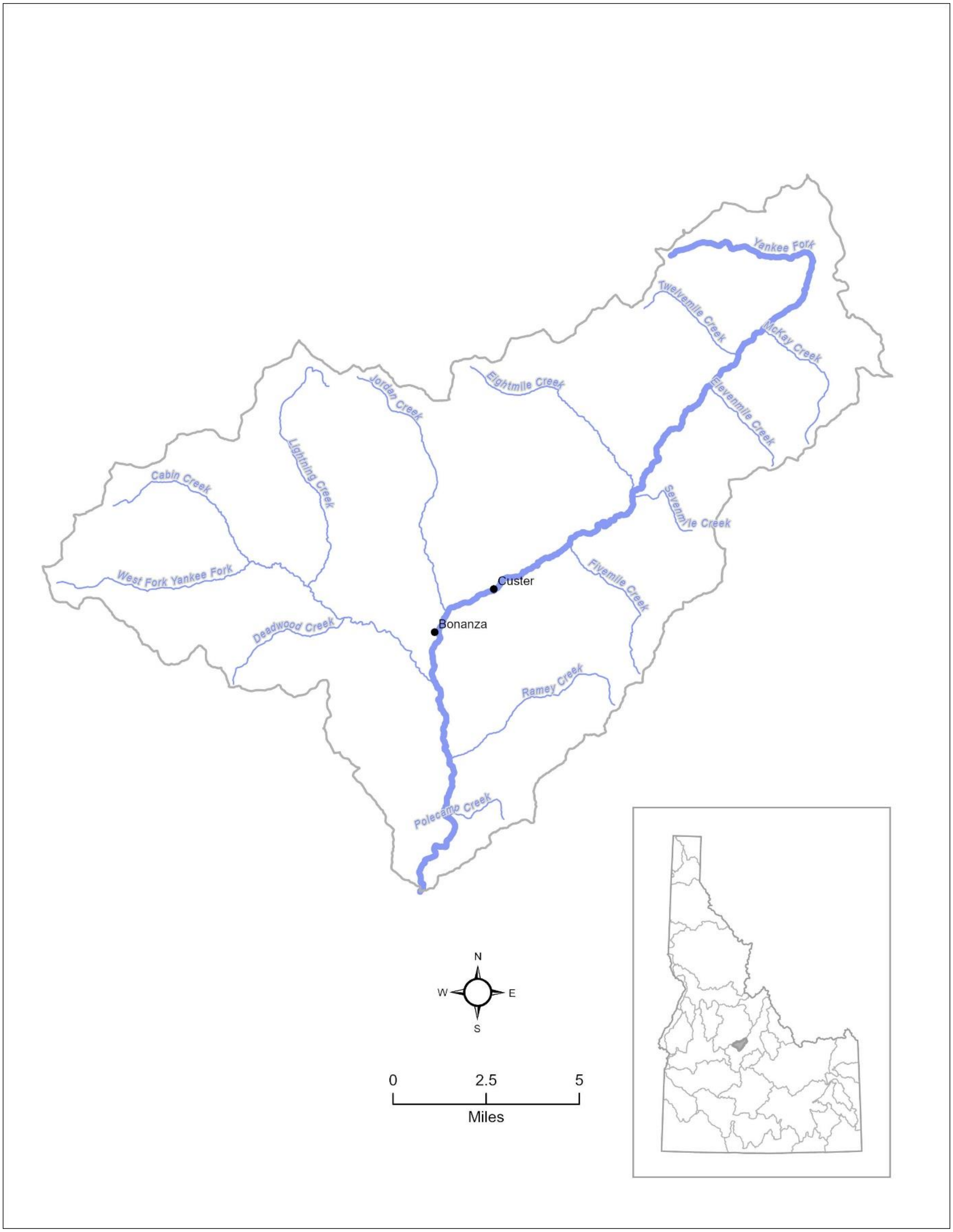
   Strategy: Investigate and implement management actions to reduce the density of Redband Trout in Jimmy Smith and Herd lakes to improve the size structure of the population.

5. Objective: Increase angler access to the East Fork Salmon River.

   Strategy: Negotiate with private landowners to establish fishing access by permission, easements, or purchases.

Waterbody	Species of Interest	Management Strategies		Additional Management Directions
		Primary	Secondary	
East Fork Salmon River (35 miles)	Bull Trout Cutthroat Trout Redband Trout Whitefish	Native	General	Provide fishery supported by natural production. Periodically evaluate to determine if regulations need adjustment. Provide harvest opportunity for Whitefish and Redband Trout.
	Steelhead Chinook Salmon	Hatchery-supported Wild/natural	Anadromous	Monitor parr abundance and salmon spawning. Monitor steelhead abundance, productivity, and life history diversity at the weir.
East Fork Salmon River tributaries (85 miles)	Bull Trout Cutthroat Trout Redband Trout Whitefish	Native	General	Provide fishery supported by natural production. Periodically evaluate to determine if regulations need adjustment. Provide limited yield fishery for Whitefish and Rainbow Trout. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
	Steelhead Chinook Salmon	Wild/natural	Anadromous	Monitor parr abundance and salmon spawning.
Lowland Lakes: Jimmy Smith Lake (48 acres), Herd Lake (17 acres)	Redband Trout	Wild/natural	General	Provide fishery supported by natural production. Investigate and implement management action to maintain and improve the size structure of the resident Redband Trout population which may include improved access, and/or additional sterile predator introductions.

17. Yankee Fork Salmon River Drainage



Overview

The Yankee Fork Salmon River flows 26 miles from its headwaters to its confluence with the Salmon River at river mile 367.1, approximately 11 miles east of Stanley, ID. The drainage area is 195 square miles. Soils are primarily Idaho Batholith granitic, which results in low productivity streams.

The USGS measured stream flow in the Yankee Fork Salmon River (gauge #13296000) near its mouth from 1921 to 1948, and again from 2011 to 2024. Annual mean discharge ranged from 102 cfs in 1926 to 424 cfs in 2017, and averaged 205 cfs.

Gold was discovered in the drainage in 1873 and the towns of Custer and Bonanza developed into thriving mining communities along the banks of the Yankee Fork. Until the late 1930s, gold was extracted by placer mining. In 1938 a large dredge was constructed and operated from 1939-1942 by the Silas Mason Company. After World War II the dredge was reactivated and operated until 1952. It was estimated that $11 million worth of gold was extracted (at market values effective at the time of mining) from approximately eight miles of Yankee Fork and Jordan Creek. Mining activity continues today throughout the drainage and particularly in the Jordan Creek drainage. Hecla Mining Company has had a continuing problem with subsurface discharge of chemicals into Jordan Creek. Hecla now diffuses leaching chemicals into the mainstem Yankee Fork near the mouth of Jordan Creek. The long-term impacts of this practice are not well known. Since the last planning period, significant efforts have been made to restore fish habitat in the previously dredged reach of the Yankee Fork Salmon River. These efforts have been coordinated through Trout Unlimited, BPA, BOR, USFS, Simplot Corp., SBT, and the State of Idaho, while the Department has provided technical assistance. Habitat restoration efforts have focused on floodplain connectivity, side channel connection and development, adding stream channel complexity through the addition of large woody debris, as well as riparian enhancement. Habitat restoration projects are ongoing in the Yankee Fork Salmon River drainage to reduce dredge tailings and restore natural river channel characteristics to the stream.

Secondary roads border the entire length of Jordan Creek and the Yankee Fork upstream to McKay Creek. The lower West Fork is accessible by road and the remainder of the stream is bordered by a trail.

Despite the extensive mining, Yankee Fork continues to support small runs of spring and summer Chinook Salmon and summer steelhead. Populations will be monitored to assess their status relative to management objectives. Hatchery steelhead have been out-planted into this drainage and will be used for natural production augmentation. Surplus adult hatchery Chinook Salmon from Sawtooth Hatchery are out-planted (when available) into the Yankee Fork drainage to supplement natural spawning, and hatchery smolts are released annually. Monitoring has been coordinated with the SBT who have recently installed an in-stream PIT array, screwtrap, and temporary adult weir and trap. Long-term plans for the Yankee Fork Salmon River include the development of a permanent capture facility for use in the SBT Waterwheel Hatchery program and for establishing the Salmon River B-run steelhead program. The Waterwheel Hatchery program will utilize a captive broodstock to produce an estimated 500,000 eyed eggs for release into the Yankee Fork Salmon River. The rebuilding of this Chinook Salmon population will contribute to recovery objectives as well as benefit tribal and non-tribal anglers. Returns of adult hatchery Chinook Salmon to the Yankee Fork will provide additional angling opportunities for tribal and non-tribal anglers.

Native resident species include Redband Trout, fluvial and resident Bull Trout and Westslope Cutthroat Trout populations, and Mountain Whitefish. As part of the habitat restoration projects mentioned above, several historic dredge ponds that were stocked with catchable Rainbow Trout have now been converted to side channel habitat. There are three ponds remaining that are still stocked and provide angling opportunity. The Yankee Fork is a very important spawning area for fluvial Bull Trout that winter in the Redfish Lake system. The drainage also provides spawning and rearing habitat for fluvial Cutthroat Trout which winter downstream in the Salmon River near Challis.

The Yankee Fork Salmon River drainage contains ~20 HMLs that are stocked on a rotating basis and follow statewide management principles (High Mountain Lake Management). HMLs provide fishing opportunities for a variety of salmonids such as Westslope Cutthroat Trout, Rainbow Trout, Arctic Grayling, Golden Trout, Bull Trout, and Brook Trout.

Objectives and Strategies

1. Objective: Maintain/improve existing wild/natural populations of native trout, Chinook Salmon and steelhead.

   Strategy: Monitor wild/natural salmon and steelhead abundance.

   Strategy: Ensure angling mortality is not causing excess mortality in wild/natural Chinook Salmon and steelhead populations.

   Strategy: Work with NOAA Fisheries and the SBT to develop hatchery release programs that preserve and protect genetic resources of naturally spawning Chinook Salmon and steelhead populations.

   Strategy: Explore feasibility, risks, and opportunity of using hatchery tools for reestablishing naturally spawning Chinook and steelhead populations in the Yankee Fork watershed.

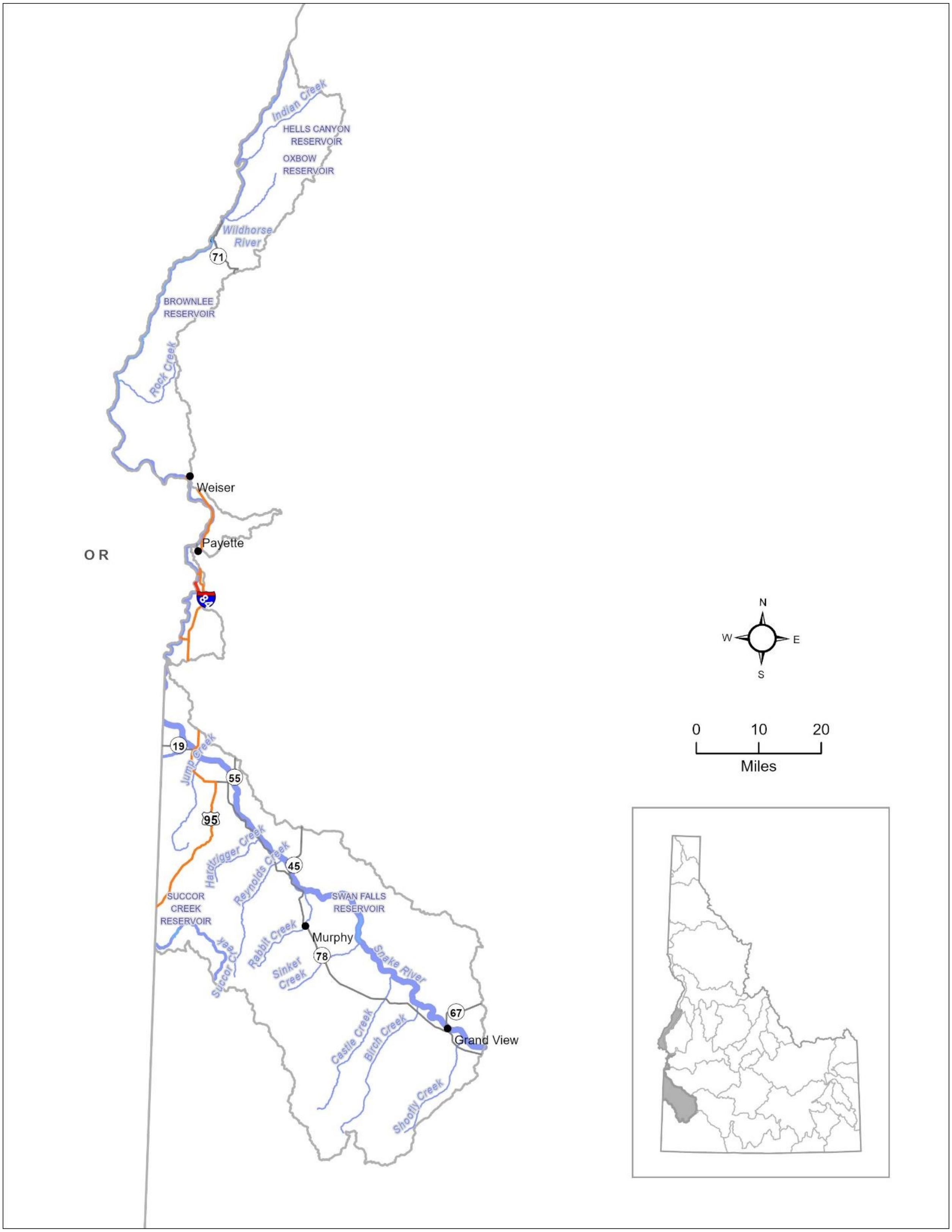
2. Objective: Maintain and improve fish habitat and water quality.

   Strategy: Continue to support the restoration of the dredged portion of the Yankee Fork mainstem to a natural state.

   Strategy: Reduce impacts of mining activity to fish populations and habitat by continuing to work with agencies such as the U.S. Forest Service and Department of Water Resources, mining companies, and private consultants to provide adequate protective measures in licensing and permitting agreements.

Drainage: Yankee Fork Salmon River				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
Yankee Fork and West Fork Salmon River (40 miles)	Bull Trout Cutthroat Trout Redband Trout Whitefish	Native	General	Provide fishery supported by natural production. Periodically evaluate to determine if regulations need adjustment. Provide harvest opportunity for Whitefish and Rainbow Trout. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
	Chinook Salmon Steelhead	Wild/natural Hatchery-supported	Anadromous	Work with partners to restore anadromous fish populations through continued supplementation and habitat improvement projects. Monitor parr abundance and salmon spawning. Develop harvest strategies.
Yankee Fork Salmon River tributaries excluding West Fork (40 miles)	Bull Trout Cutthroat Trout Redband Trout Whitefish	Native	General	Provide fishery supported by natural production. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
	Chinook Salmon Steelhead	Wild/natural Hatchery-supported	Anadromous	Work with partners to restore anadromous fish populations through continued supplementation and habitat improvement projects. Monitor parr abundance and salmon spawning.
Yankee Fork Dredge Ponds (10 acres)	Rainbow Trout	Hatchery-supported	General	Maintain stocking of Rainbow Trout to provide harvest opportunity. Protect spawning steelhead adults when managing for this fishery

18. Snake River Drainage – Hells Canyon to CJ Strike Dam



Overview

The Snake River between Hells Canyon and CJ Strike dams (265 miles) has been greatly altered by impoundments, diversions, and riparian habitat modifications. Within this reach, IPC has constructed five major dams: Hells Canyon, Oxbow, Brownlee, Swan Falls, and CJ Strike. These dams impound 111 miles of river and form reservoirs that total 12,050 surface acres. There is 154 miles of free-flowing river remaining within this reach. The Snake River impoundments between Hells Canyon and CJ Strike dams support populations of warmwater and coldwater game fish.

The Department has been participating in the long-term and ongoing relicensing process for the Hells Canyon Complex and was involved in processes associated with establishing new licenses for CJ Strike and Swan Falls dams. From these licensing processes, certain mitigation programs designed to protect or enhance aspects of aquatic resources and angler access are or will be required of IPC. These actions where appropriate will be incorporated into fishery management decisions of the Department.

Reservoir fisheries within Brownlee, Oxbow, Hells Canyon, and Swan Falls reservoirs support the primary fisheries in this management area. Smallmouth Bass are widely distributed, abundant, can achieve large sizes, and are preferred by many anglers. Panfish, especially crappie, attract many anglers to Brownlee and Oxbow reservoirs during cyclical upswings in abundance. Channel Catfish are highly abundant throughout most of these reservoirs and frequently targeted especially in the Snake River and upper portion of Brownlee Reservoir. Other species such as Bluegill, Largemouth Bass, Flathead Catfish, or White Sturgeon provide fishing opportunity, but compose a minor portion of fish communities and do not support a high amount of fishing effort.

From Brownlee Reservoir upstream to Walters Ferry, the Snake River flows through a broad, flat plain with low gradient, few rapids or riffles, and many large islands. This section of river supports a diversity of warmwater species, including Smallmouth Bass, Channel Catfish, Largemouth Bass, crappie, Bluegill, Pumpkinseed, and Flathead Catfish. Common Carp and Largescale Sucker compose a significant portion of the biomass. From Walters Ferry upstream to Swan Falls Dam, the Snake River flows through a narrow canyon with boulder strewn rapids and large, deep pools. The primary fishery upstream from Walters Ferry consists of Smallmouth Bass, Channel Catfish, and White Sturgeon, an increasing portion of which are hatchery origin. A recent study indicated that Smallmouth Bass between Brownlee and Swan Falls dams are highly migratory, often moving between main river, reservoir, and tributary habitats. In this portion of the Snake, Smallmouth Bass likely act as one large interconnected population, and are harvested at low rates. Water quality in this reach is generally impaired from excess nutrients, suspended sediments, and high temperatures, creating ideal conditions for aquatic plant and algae growth. Excessive plant and algae growth, which reaches nuisance levels at certain times of the year, can result in oxygen deprivation for other aquatic organisms and significantly diminish fishing opportunities.

Major tributaries to the Snake River between Hells Canyon Dam and CJ Strike Reservoir include the Weiser, Payette, Malheur, Boise, Owyhee, and Bruneau rivers. The Malheur is entirely in Oregon and will not be discussed in this plan. The other major tributaries are covered separately in this plan under the major headings of Weiser River Drainage, Payette River Drainage, Boise River Drainage, and the Owyhee-Bruneau River Drainage.

Minor or small tributaries to the Snake River within this planning section flow from the Seven Devils, Cuddy, Hitt, and the Owyhee mountains. Streams draining the semi-arid Owyhee Mountains flow through deep, rugged canyons; many flow intermittently during the warm summer months. The remaining small tributaries drain high elevation, mountainous terrain. Most small tributaries to the Snake River and impoundments, which are capable of supporting fish, contain native inland Redband Trout. The headwaters of some of these streams also support Bull Trout. These species will be given management priority with emphasis on restoring habitat or avoiding further habitat degradation.

Objectives and Strategies

1. Objective: Provide a diversity of Smallmouth Bass fishing experiences within the river and mainstem impoundments.

   Strategy: Periodically assess age structure, growth, condition, as well as angler use and exploitation of Smallmouth Bass.

   Strategy: Periodically evaluate exploitation and population demographics to determine whether alternative regulations are needed for Brownlee Reservoir. Gauge public opinion for alternatives.

2. Objective: Maintain or increase fishing opportunity for White Sturgeon.

   Strategy: Monitor angler catch rates and continue to cooperate with IPC in implementing the Snake River White Sturgeon Conservation Plan (WSCP). The WSCP is a plan developed by IPC in coordination with the Department and other fishery management agencies to monitor abundance, study recruitment, and ensure persistence of White Sturgeon in the Snake River between Shoshone Falls and Lewiston, Idaho. Implementation of the WSCP is required of IPC as part of the issuance of new federal licenses to operate the middle Snake River Hydroelectric Projects (Upper Salmon Falls, Lower Salmon Falls, Bliss) as well as CJ Strike and Swan Falls. The WSCP will also include actions associated with the Hells Canyon Complex when they are relicensed. The plan is in close alignment with the Department's White Sturgeon Management Plan (IDFG 2024a). Actions in the WSCP include:

   a. Monitoring of White Sturgeon population size and age structure;
   b. Evaluating supplementation options including stocking of hatchery reared fish, egg or larval repatriation, as well as translocation of wild fish;
   c. Researching options to increase survival rates especially of young sturgeon. Identify habitat needs and factors limiting survival.
   d. Monitoring growth and survival of recently stocked hatchery White Sturgeon downstream of CJ Strike and Swan Falls dams. Optimize stocking densities utilizing growth and survival studies.

   Strategy: Assess effects of catch-and-release angling on White Sturgeon populations and evaluate regulation changes if needed to protect White Sturgeon during environmental or biological stressful periods when they may be especially vulnerable to mortality associated with angling.

   Strategy: Increase angler awareness of White Sturgeon biology and life history, especially habitat requirements necessary for successful recruitment.

   Strategy: Publicize sturgeon fishing regulations and proper handling techniques, especially sliding sinker, dropper line, and barbless hook requirements as well as prohibitions on removal from the water, through a variety of media outlets.

3. Objective: Maintain or increase fishing opportunity for panfish, especially crappie, in Brownlee and Oxbow reservoirs.

   Strategy: Assess age structure, growth, condition, recruitment, as well as angler use and exploitation of crappie.

   Strategy: Publicize crappie population status to inform anglers.

4. Objective: Provide a diversity of fishing opportunities for catfish (e.g., Channel, Flathead) within the river and mainstem impoundments.

   Strategy: Publicize angling opportunities, fishing locations and access areas, as well as fishing techniques and identification for catfish species.

Strategy: Assess age structure, growth, condition, as well as angler use and exploitation of catfish species.

5. Objective: Maintain or improve native Bull Trout and Redband Trout populations in Snake River tributaries.

   Strategy: Monitor distribution and abundance of tributary populations of Bull Trout and Redband Trout.

   Strategy: Provide technical assistance regarding proposed land and water management activities of private, state, and federal lands. Where feasible, collaborate with landowners and water managers to improve habitat and water management to restore connectivity between tributaries and the mainstem Snake River.

   Strategy: Seek opportunities to improve aquatic and riparian habitats for these species.

6. Objective: Ensure appropriate mitigation for operational impacts of IPC's hydroelectric facilities on the Snake River.

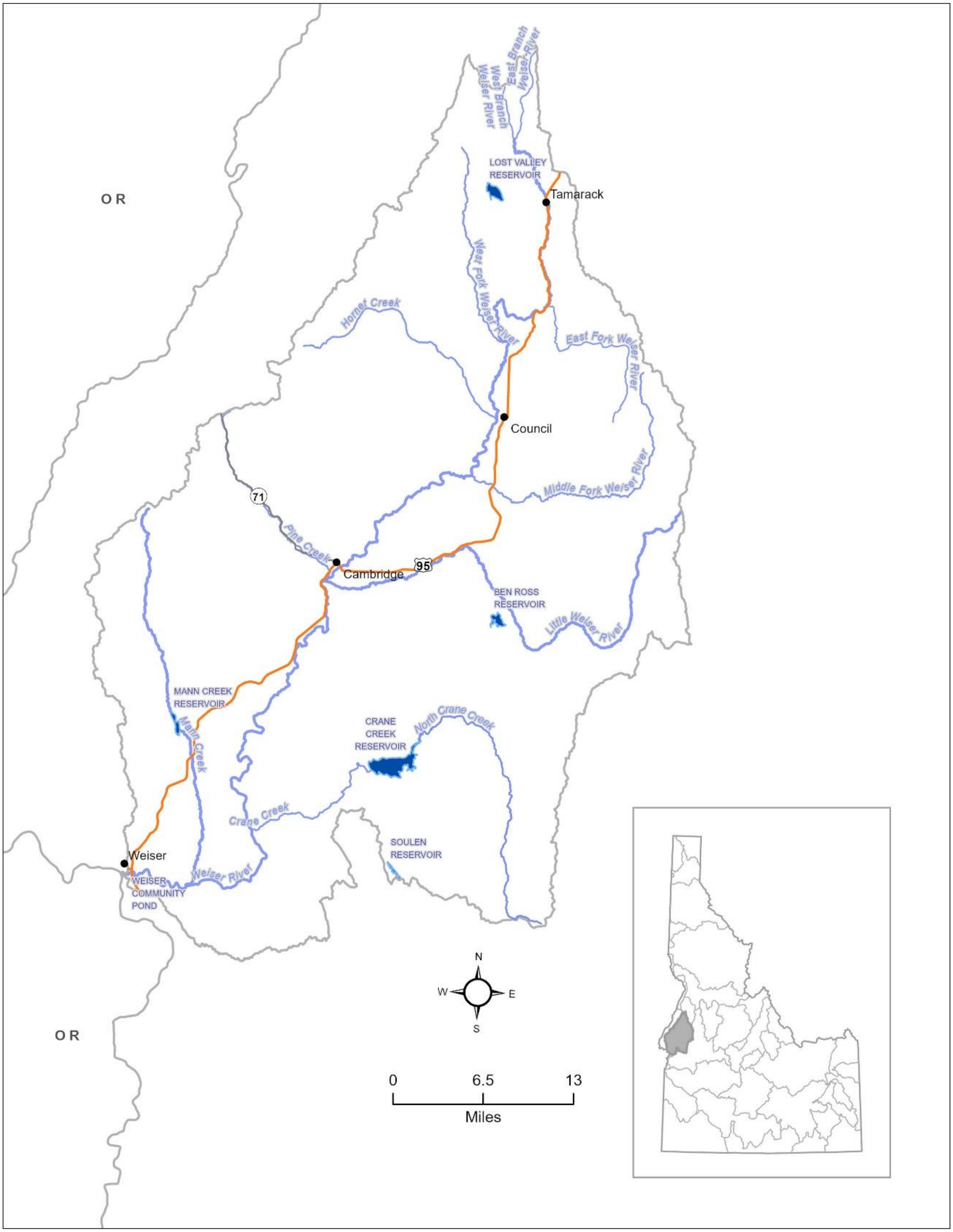
   Strategy: Coordinate with IPC in the implementation of license conditions required as part of new federal license for the CJ Strike and Swan Falls dams. Maintain involvement in FERC-relicensing process for the Hells Canyon Complex.

Drainage: Snake River from Hells Canyon Dam to CJ Strike				
Waterbody	Species of Interest	Management Strategies		Additional Management Directions
		Primary	Secondary	
Hells Canyon Reservoir (26 miles/2,460 acres)	Steelhead Rainbow Trout Smallmouth Bass Largemouth Bass Channel Catfish Panfish Sturgeon	Hatchery-supported Wild/natural Wild/natural Hatchery-supported	Anadromous General Yield Quality	Maintain limited fishery with hatchery steelhead when adult fish are available. Monitor growth, age structure, and condition of Smallmouth Bass and crappie. Assess angler effort, exploitation, and satisfaction to determine if management changes are warranted. Evaluate feasibility of initiating a stocking program
Oxbow Reservoir (12 miles/1,120 acres)	Smallmouth Bass Largemouth Bass Rainbow Trout Channel Catfish Panfish Sturgeon	Wild/natural Wild/natural Hatchery-supported	General Yield Quality	Monitor growth, age structure, and condition of Smallmouth Bass and crappie. Assess angler effort, exploitation, and satisfaction to determine if management changes are warranted. Evaluate feasibility of initiating a stocking program
Indian Creek (20 miles)	Redband Trout Bull Trout Brook Trout	Native Native Incompatible	General General	Monitor trout populations periodically at established sites. Coordinate with IPC fish sampling and mitigation efforts. Coordinate with IPC to monitor Bull Trout population and life history. Explore opportunities to increase distribution or abundance.
Tributaries to Snake River and reservoirs (800 miles)	Rainbow Trout Redband Trout Bull Trout Brook Trout	Wild/natural Native Native Incompatible	General General General	Bull Trout and Redband Trout will receive management priority in drainage. Coordinate with IPC to monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.

Brownlee Reservoir (55 miles/11,000 acres)	Smallmouth Bass Largemouth Bass Rainbow Trout Channel Catfish Flathead Catfish Black Crappie White Crappie Panfish White Sturgeon	Wild/natural Wild/natural Hatchery-supported	General Yield Quality	Monitor growth, age structure, condition, and exploitation of Smallmouth Bass, catfish, and crappie. For crappie, develop methods to predict fishing quality. Collaborate with other agencies to improve land management practices and water quality in Brownlee Reservoir. Seek opportunities to secure additional or improved recreational access for the upstream portion of the reservoir. Closed to harvest. Catch-and-release, only. Evaluate survival and growth of stocked sturgeon and allocate fish elsewhere if survival is low. Implement the White Sturgeon Management Plan.
Snake River from Brownlee Reservoir to Swan Falls Dam (240 miles)	Largemouth Bass Smallmouth Bass Channel Catfish Flathead Catfish Rainbow Trout Panfish Mountain Whitefish Walleye White Sturgeon	Wild/natural Wild/natural Native Incompatible Hatchery-supported	General Yield General Quality	Monitor bass and catfish population size, growth, age structure, and condition. Assess angler use, catch and harvest, and satisfaction. Investigate regulation alternatives for bass to improve size structure of population. Collaborate with other agencies to improve land management practices and water quality in Brownlee Reservoir. Seek opportunities to secure additional recreational access between Swan Falls Dam and Celebration Park. Closed to harvest. Catch-and-release, only. Optimize stocking densities by monitoring growth, survival, and population abundance. Continue evaluation of angling impacts on local populations. Utilize options outlined in the White Sturgeon Management Plan to improve the fishery. Evaluate survival and growth of stocked sturgeon and allocate fish elsewhere if survival is low.
Reynolds Creek (25 miles)	Redband Trout	Native	General	Improve recruitment, abundance, and distribution of Redband Trout by seeking improved range and riparian management through BLM planning process and by working with private landowners.
Swan Falls Reservoir (470 acres)	Largemouth Bass Smallmouth Bass Channel Catfish Panfish Flathead Catfish Mountain Whitefish White Sturgeon	Wild/natural Native Hatchery-supported	General General Quality	Determine fish population species composition and size structure. Investigate regulation alternatives for bass to improve size structure of population. Monitor sturgeon population status and mortalities at Swan Falls Dam. Determine sources of adult mortality and ameliorate. Closed to harvest. Catch-and-release, only. Utilize options outlined in the White Sturgeon Management Plan to improve the fishery.
Castle Creek (30 miles)	Redband Trout	General		Manage for native Redband Trout; advocate improved range and riparian management through BLM planning process and by developing partnerships with private landowners

Snake River from Swan Falls Reservoir to CJ Strike Dam (30 miles)	Largemouth Bass Smallmouth Bass Channel Catfish Flathead Catfish Rainbow Trout	Wild/natural	General	Maintain quality fishing opportunities for Smallmouth Bass. Determine population abundance, growth rates, age structure, and exploitation rates. Investigate regulation alternatives for bass to improve size structure of population. Monitor sturgeon population abundance, angling effort, and catch. Optimize stocking densities. Continue evaluation of angling impacts on local populations. Determine sources of adult mortality and ameliorate. Utilize options outlined in the White Sturgeon Management Plan to improve the fishery
	Panfish	Wild/natural	Yield	
	Mountain Whitefish	Native	General	
	Walleye	Incompatible		
	White Sturgeon	Hatchery-supported	Quality	

19. Weiser River Drainage



Overview

The Weiser River basin is located in southwestern Idaho. It drains from the Seven Devils Mountains to the north, Cuddy Mountain to the west, and the West Mountains to the east. The drainage flows in a southwesterly direction for about 112 miles until entering the Snake River near the city of Weiser. Elevations in the drainage vary from 8,000 feet in the mountains to 2,090 feet at Weiser. The Weiser River basin is 1,660 square miles, primarily in low, rolling foothills dissected by many small streams. It has an average annual runoff of 742,000 acre-feet of water. Runoff during the spring is essentially unregulated as total outflows far exceed reservoir storage; however, in the lower drainage, discharge is extremely low during summer as much of the flow is diverted for irrigation. Late summer flows in the lower 18 miles are supplemented by releases from Crane Creek Reservoir.

The Weiser River has no mainstem storage reservoirs. Private irrigation districts have constructed four reservoirs on tributary streams. Those reservoirs, Lost Valley, Ben Ross, Crane Creek, and Mann Creek, have a total storage capacity of about 83,000 acre-feet of water. All were constructed to provide irrigation benefits, and typically fill during the spring runoff period and become extremely low in the late summer and early fall. In extremely dry years, Crane Creek, Ben Ross, and Lost Valley reservoirs have gone dry. Mann Creek Reservoir possesses a minimum pool. Ben Ross and Crane Creek reservoirs are best suited for production of warmwater game species. Mann Creek Reservoir supports a mixed fishery of warmwater species, hatchery Rainbow Trout, and Redband Trout (that possess some level of introgression with Rainbow Trout). All three reservoirs support populations of Largemouth Bass and crappie. Crane Creek Reservoir is currently impacted by a large population of Common Carp which contribute to poor water quality in the reservoir and downstream and low productivity for sport fish. Ben Ross Reservoir is managed for quality Largemouth Bass fishing. It also has Bluegill, Black Crappie, and White Crappie that provide prey for the bass and general fishing opportunity.

Lost Valley Reservoir can be an excellent Rainbow Trout fishery, but has a history of problems associated with stunted Yellow Perch. It has routinely been chemically reclaimed when the perch population increases to the point it reduces growth of both the trout and perch.

From the mouth of the Weiser River upstream to Galloway Dam, the river supports a marginal warmwater fishery. Smallmouth Bass from the Snake River and Brownlee Reservoir make spring migrations into this reach, where they generate angling interest. Low summer flows caused by irrigation demand create poor water quality conditions and limits fishery production in this section of river. From Galloway Dam upstream to Cambridge, the river supports a limited fishery for Rainbow Trout and high densities of Smallmouth Bass. Upstream from Cambridge, Redband Trout, Mountain Whitefish, and nongame fish dominate the fish community. Tributaries to the Weiser River, which have not been adversely impacted by agricultural practices or stream alterations, support excellent populations of Redband Trout. These streams will be managed to conserve Redband Trout, and hatchery trout stocking will be limited to sterile Rainbow Trout in areas with high angler use.

Isolated populations of Bull Trout occupy individual tributaries to the Little Weiser River, the East Fork Weiser River and Hornet Creek.

Objectives and Strategies

1. Objective: Preserve populations of Bull Trout to meet recovery goals.

Strategy: Conduct population assessments in the five Bull Trout populations every five years. The five populations are: upper Hornet Creek, upper East Fork Weiser River, Dewey Creek, Anderson Creek and Sheep Creek.

Strategy: Work with land management agencies and private landowners to preserve and improve habitat. Identify and remedy barriers that hinder fish migration. Support efforts to provide improved water quality and summer stream flow throughout the drainage above Little Weiser River. Install efficient irrigation diversions with fish screening.

2. Objective: Preserve Redband Trout genetic integrity and maintain or improve population abundance.

   Strategy: Limit hatchery trout to reservoirs and limited stream sections near major access points, such as campgrounds. Use only sterile Rainbow Trout stocks.

   Strategy: Define and sample three to five core Redband Trout populations within the drainage. Collect population data and genetic samples within this planning period.

   Strategy: Work with land management agencies and private landowners to identify and perform habitat improvement projects. Identify and remedy fish barriers and low flow conditions that hinder fish migration. Support efforts to improve water quality and summer stream flows throughout the drainage.

3. Objective: Collaborate with other agencies to improve water quality and instream flows to support fish populations drainage-wide.

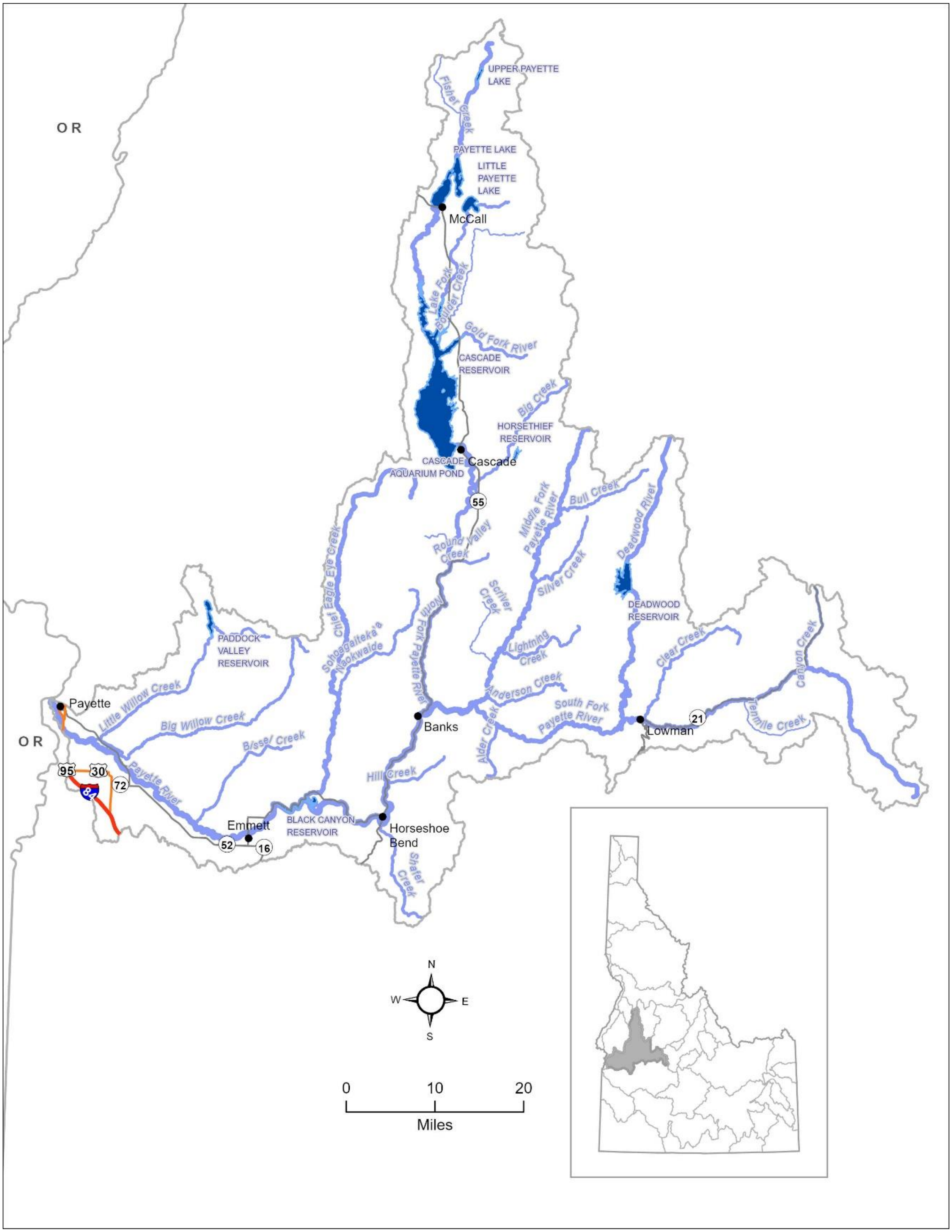
   Strategy: Seek opportunities to collaborate with other agencies, local governments, and private landowners to develop watershed planning and habitat improvement projects that address water quality, riparian shading, and summer flows.

   Strategy: Reduce densities and biomass of Common Carp through biological, chemical, or mechanical means.

Drainage: Weiser River				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
Weiser River from mouth to Little Weiser River (45 miles)	Channel Catfish Rainbow Trout Mountain Whitefish Smallmouth Bass	Wild/natural Wild/natural	General General	Work with other agencies to Identify strategies to improve summer flows and water quality. Identify, acquire, and develop fishing and boating access sites with emphasis between Galloway Dam and the mouth. Publicize Smallmouth Bass fishing opportunities in the Weiser River Canyon.
Weiser River from mouth of Little Weiser River upstream including tributaries not listed below (120 miles)	Redband Trout Mountain Whitefish Rainbow Trout Smallmouth Bass Brook Trout Bull Trout	Native Wild/natural Wild/natural Incompatible Native	General General General General	Redband Trout will be managed to conserve native populations. Use only sterile hatchery Rainbow Trout for stocking programs. Work with other agencies to Identify strategies to improve summer flows and water quality. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
Little Weiser River and tributaries (45 miles)	Rainbow Trout Redband Trout Mountain Whitefish Brook Trout Bull Trout	Wild/natural Native Incompatible Native Native	General General General General	Redband Trout will be managed to conserve native populations. Only sterile hatchery Rainbow Trout will be used for stocking programs. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
Middle Fork Weiser River and tributaries (27 miles)	Rainbow Trout Brook Trout Bull Trout	Wild/natural Hatchery-supported Incompatible Native	General General	Continue limited hatchery plantings on Middle Fork near campgrounds only. Wild/natural trout will receive priority management. Promote reduction of Brook Trout through liberal harvest regulations Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
West Fork Weiser River and tributaries (20 miles)	Redband Trout Rainbow Trout Brook Trout Bull Trout	Native Wild/natural Hatchery-supported Incompatible Native	General General General	Wild/natural Rainbow Trout will be managed to conserve native populations. Use only sterile hatchery Rainbow Trout for stocking programs. Promote reduction of Brook Trout through liberal harvest regulations Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.

Mann Creek Reservoir (Spangler Reservoir) (270 acres)	Redband Trout Rainbow Trout Largemouth Bass Black Crappie	Native Hatchery-supported Wild/natural Wild/natural	General General Yield	Monitor adfluvial Redband Trout abundance and identify upstream man-made barriers in spawning tributaries and work with fishing clubs and USFS to improve passage. Maintain catchable Rainbow Trout stocking and periodically monitor harvest. Adjust stocking practices or regulations as needed. Monitor Largemouth Bass abundances and harvest rates. Determine whether harvest rates are negatively affecting fishery quality.
Crane Creek Reservoir (2,300 acres)	Largemouth Bass Bullhead Channel Catfish Panfish	Wild/natural Wild/natural	General Yield	Periodically evaluate sport fish populations. Investigate fishery renovation to remove carp during a prolonged drought period.
C. Ben Ross Reservoir (360 acres)	Largemouth Bass Panfish	Wild/natural Wild/natural	Quality Yield	Maintain quality bass regulation. Periodically assess fish species composition, abundance, and growth to ensure management objectives are being met. Monitor abundance of bluegill and crappie. Ensure adequate forage abundance to meet objectives for trophy bass.
Lost Valley Reservoir (520 acres)	Rainbow Trout Yellow Perch	Hatchery-supported Wild/natural	General Yield	Continue stocking average 12” catchable Rainbow Trout, and periodically monitor use and exploitation. Encourage harvest of Yellow Perch. Monitor population abundance and consider chemical treatment if warranted to reduce abundance.
Weiser Community Pond (1 acres)	Rainbow Trout Largemouth Bass Bluegill Bullhead Channel Catfish	Hatchery-supported Wild/natural	General General	Manage to provide opportunities for novice anglers and youth. Supplement warmwater fish populations as needed. Publicize stocking schedule to maximize angler outreach and education.

20. Payette River Drainage



Overview

The Payette River basin is located in southwestern Idaho. The drainage is comprised of primarily granitic soils, which are unproductive and highly erosive. Its headwaters originate in the Sawtooth and Salmon River mountains at elevations over 10,000 feet. The drainage flows in a southwesterly direction for over 175 miles where it empties into the Snake River near the city of Payette, ID at an elevation of 2,125 feet. Principal tributaries include the North Fork Payette and South Fork Payette, as well as the Gold Fork River which drains into the North Fork Payette, and the Middle Fork Payette and the Deadwood River which drain into the South Fork Payette. The Payette River basin comprises about 3,240 square miles in total, with the North Fork accounting for about 950 square miles and the South Fork about 1,200 square miles. Between 1936 and 2023, the USGS stream gauge located near Payette has recorded flows ranging from 251 cfs in 1977, to 12,900 cfs in 1982. Mean annual discharge is 3,340 cfs.

Irrigation accounts for the largest water use in the Payette River drainage, with about 160,000 acres of irrigated farmland. As such, there are several irrigation storage reservoirs within the drainage, the largest of which are Deadwood Reservoir, Lake Cascade, and Black Canyon Reservoir. This system also supports flood control, recreation, hydroelectric generation, mining, logging, and salmon flow augmentation. Land ownership in the North Fork Payette is very diverse (56% private and 44% public) and includes irrigated cropland and pasture, forest, dry land agriculture, upland rangeland, municipalities, and flood prone river bottom riparian areas, while in the South Fork Payette 99.9% of the drainage is forested public land (primarily National Forest).

The Payette River system supported runs of anadromous salmon and steelhead prior to construction of Black Canyon Dam in 1924. However, even prior to dam-induced extirpation of anadromous fish, the Payette River system started seeing fish habitat degradation from other anthropogenic activities. Mining began in the 1860s in the Payette drainage, but never yielded much gold. During that time settlers began inhabiting the drainage to support miners within and outside of the Payette drainage. Water diversions began as early as 1862 as settlers began farming and cattle grazing, and today diversions for agricultural irrigation have significant impacts on low summer flows and elevated temperatures throughout the system – especially in the upper North Fork and lower mainstem Payette River. Timber production began in the late-1800s as well and was largely un-regulated until the establishment of the National Forest system in the early 1900s. Today, the entire mainstem of the South Fork Payette River is 303(d) listed as sediment impaired by IDEQ. Recreational suction dredge mining has increased in the South Fork Payette system in recent years. In the North Fork Payette drainage system, IDEQ 303(d) impairment listings are numerous, mainly related to elevated levels of sedimentation, phosphorus, and temperature. Lake Cascade suffers from numerous impairments that have contributed to routine toxic cyanobacteria blooms in recent years. In 2023, the Valley Soil and Water Conservation District was awarded a BOR WaterSMART grant to form a North Fork Payette watershed advisory coalition. The goal of the coalition is to address watershed best management practices and water quality improvements in the North Fork Payette River watershed.

Due to the wide range in elevation, the Payette River drainage has a variety of fish and fish habitats. From its mouth to Black Canyon Dam, the river supports a mixed fishery for coldwater and warmwater species. Mountain Whitefish are the most numerous game fish in this section of river, with Smallmouth Bass, Largemouth Bass, Channel Catfish, Black Crappie, and Flathead Catfish making significant contributions. Upstream from Black Canyon Dam, the gradient of the river increases with coldwater species increasing in abundance.

There are six major impoundments in the Payette basin: Black Canyon, Sagehen, Paddock, Cascade, Horsethief, and Deadwood, and several small impoundments and natural lakes with increased storage, such as the three Payette lakes. Impoundments in the Payette basin primarily serve irrigation needs with flood control and recreation providing additional benefits. Black Canyon Reservoir provides only marginal fish habitat. Sediment from upstream land disturbances have significantly reduced reservoir capacity and habitat quality. Furthermore, a construction project in 2012-2013 and associated reservoir drawdowns led to fish kills and reduced sport fish abundances in the reservoir and the Lower Payette River. Smallmouth Bass have been slow to recover after these fish kills. After a series of good water years, Paddock Reservoir on Big Willow Creek can produce a good fishery for Largemouth Bass, Bluegill, Black Crappie, and Brown Bullhead, but after a series of drought years these populations decline precipitously. Lake Cascade on the North Fork was once the most heavily fished water in the state until the fishery collapsed in the late-1990s. Restoration efforts in the early 2000s have resulted in the lake once again becoming a world-class Yellow Perch fishery, breaking state and world records in recent years. Since 2018, three Walleye have been caught out of Lake Cascade. However, natural reproduction has not yet been documented. Deadwood Reservoir provides a popular fishery for Kokanee, Rainbow Trout, Cutthroat Trout. A population of adfluvial Bull Trout also exist in the reservoir. Deadwood served as the state's primary source for early-strain kokanee eggs until recently when spawner escapement declined. Efforts to investigate kokanee declines and recover this population are ongoing.

The rivers and streams in the South Fork of the Payette River drainage support low-density populations of Redband Trout and isolated headwater populations of Bull Trout. Due to low wild trout abundance, a sterile hatchery Rainbow Trout stocking program was reinstituted on an experimental basis during 2017. The mainstem South Fork Payette is the most popular whitewater floating river in the drainage. The North Fork of the Payette River from the confluence with the South Fork to Smith's Ferry has been severely altered by railroad and highway construction and provides only a marginal fishery for salmonids. However, upstream from Smith's Ferry the North Fork contains several important fisheries including Lake Cascade, Horsethief Reservoir, Payette Lake, Little Payette Lake, and hundreds of high mountain lake fisheries. HMLs comprise ~1,386 acres and will be managed according to statewide direction (High Mountain Lake Management). Rivers and streams within this upper reach of the North Fork Payette provide fishing opportunities for migratory salmonids during certain periods of the year but are not productive during summer months when tributaries suffer from low flows and elevated temperatures due to irrigation diversions. High elevation tributaries in the drainage provide cold-water habitat for salmonids including the one remaining isolated Bull Trout population in the entire drainage - in a headwater stream in the Gold Fork River drainage.

Objectives and Strategies

1. Objective: Maintain and improve fish habitat, water quality, and instream flows within the Payette River drainage.

   Strategy: Work with land management and state agencies, conservation organizations, counties, soil and water conservation districts, tribes, and private landowners in planning efforts to protect and improve fish habitat, water quality and instream flows.

   Strategy: Cooperate with other entities during environmental review of mining projects, hydropower projects, and other development projects within the drainage to ensure effective monitoring standards for water quality and fish and wildlife values are incorporated into those projects.

2. Objective: Maintain a diversity of fishing opportunities in the Payette River drainage.

Strategy: Work with local municipalities, private landowners, and land management agencies to provide and maintain put-and-take fishing opportunities in local community ponds. Utilize surveys to determine stocking rates and/or identify where panfish transplants may be appropriate to create warmwater fisheries.

Strategy: Determine feasibility of maintaining fisheries via natural reproduction. Supplement with hatchery fingerling and catchable stocking where appropriate, based on use and exploitation evaluations.

Strategy: Develop and participate in a regular angler outreach program to influence management direction for regional fisheries. Incorporate human dimensions surveys and analyses as appropriate.

Strategy: Provide a diversity of HML fishing opportunities. Use surveys to guide management strategies.

3. Objective: Improve and increase fishing access.

   Strategy: Work with private landowners, counties, local municipalities, land management agencies, and Idaho Transportation Department to improve angler access to the North Fork Payette River downstream of Payette Lake.

4. Objective: Maintain/improve existing wild/natural populations of trout throughout the drainage.

   Strategy: Evaluate entrainment in unscreened canals, and work with local irrigators and conservation organizations to seek opportunities to reduce entrainment and improve trout survival.

   Strategy: Conserve and enhance existing Bull Trout populations in the Gold Fork River drainage and Chief Eagle Eye Creek and South Fork and Middle Fork Payette drainages.

   Strategy: Work with the Forest Service and other parties to identify fish passage barriers and prioritize culvert replacements or other passage solutions.

5. Objective: Manage Deadwood Reservoir kokanee population for multiple objectives, including feral brood source and fishery.

   Strategy: Evaluate limiting factors, biotic and abiotic, controlling kokanee population.

   Strategy: Investigate methods for restoring kokanee populations including possible nutrient supplementation.

Drainage: Payette River				
Waterbody	Species of Interest	Management Strategies		Additional Management Directions
		Primary	Secondary	
Payette River mouth to Black Canyon Dam (40 miles)	Smallmouth Bass Channel Catfish Largemouth Bass Mountain Whitefish	Wild/natural Native	General General	Monitor fish populations, especially in relationship to federal construction projects at Black Canyon Dam. Periodically monitor bass and catfish populations to determine relative abundance, growth rates, age structure, and exploitation rates.
Black Canyon Reservoir (890 acres)	Smallmouth Bass Largemouth Bass Channel Catfish Tiger Muskie Panfish Yellow Perch	Wild/natural Hatchery-supported Wild/natural	General	Monitor fish composition and size structure during this six-year period. Stock or transfer game fish after federal construction projects are completed. Determine if the public is interested in the development of Channel Catfish or tiger muskie fisheries. Evaluate if stocking occurs.
Black Canyon to South Fork/North Fork Confluence (35 miles)	Rainbow Trout Mountain Whitefish Bull Trout	Wild/natural Native Native	General General General	Maintain as a non-stocking native fishery. Evaluate fish and habitat by visual and snorkeling techniques. Monitor Bull Trout population and life history. Explore opportunities to increase distribution or abundance.
Community Ponds (Dick Knox, Sawyers, etc.) ponds (8 acres)	Rainbow Trout Largemouth Bass Panfish Channel Catfish	Hatchery-supported Wild/natural Wild/natural Wild/natural	General General Quality Trophy General General	Stock hatchery trout seasonally in select ponds. Periodically evaluate angler use and exploitation to determine locations, timing, and stocking densities. Publicize stocking schedule and fishing trailer events to maximize angler outreach and education. Monitor and treat undesirable aquatic plants at Department-managed ponds as needed. Investigate harvest and size restrictions for bass and panfish to provide a diversity of angling opportunities. Enhance shoreline vegetation and add artificial habitat structures.
Paddock Reservoir (1,190 acres)	Largemouth Bass Panfish	Wild/natural Wild/natural	General Yield	Monitor warmwater fish populations following drought periods. Supplement populations as necessary.
Warmwater lowland reservoirs (200 acres)	Largemouth Bass Smallmouth Bass Panfish Channel Catfish	Wild/natural	General Yield	Maintain warmwater populations for harvest-oriented local fishing opportunity. Use stunted stocks for introduction into new water. Survey periodically. Monitor and treat undesirable aquatic plants as needed.
Chief Eagle Eye Creek and Willow Creek (135 miles)	Redband Trout Bull Trout	Native Native	General General	Maintain native stocks. Monitor status and distribution of Redband Trout. Work with private and public entities to improve riparian and upland conditions. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.

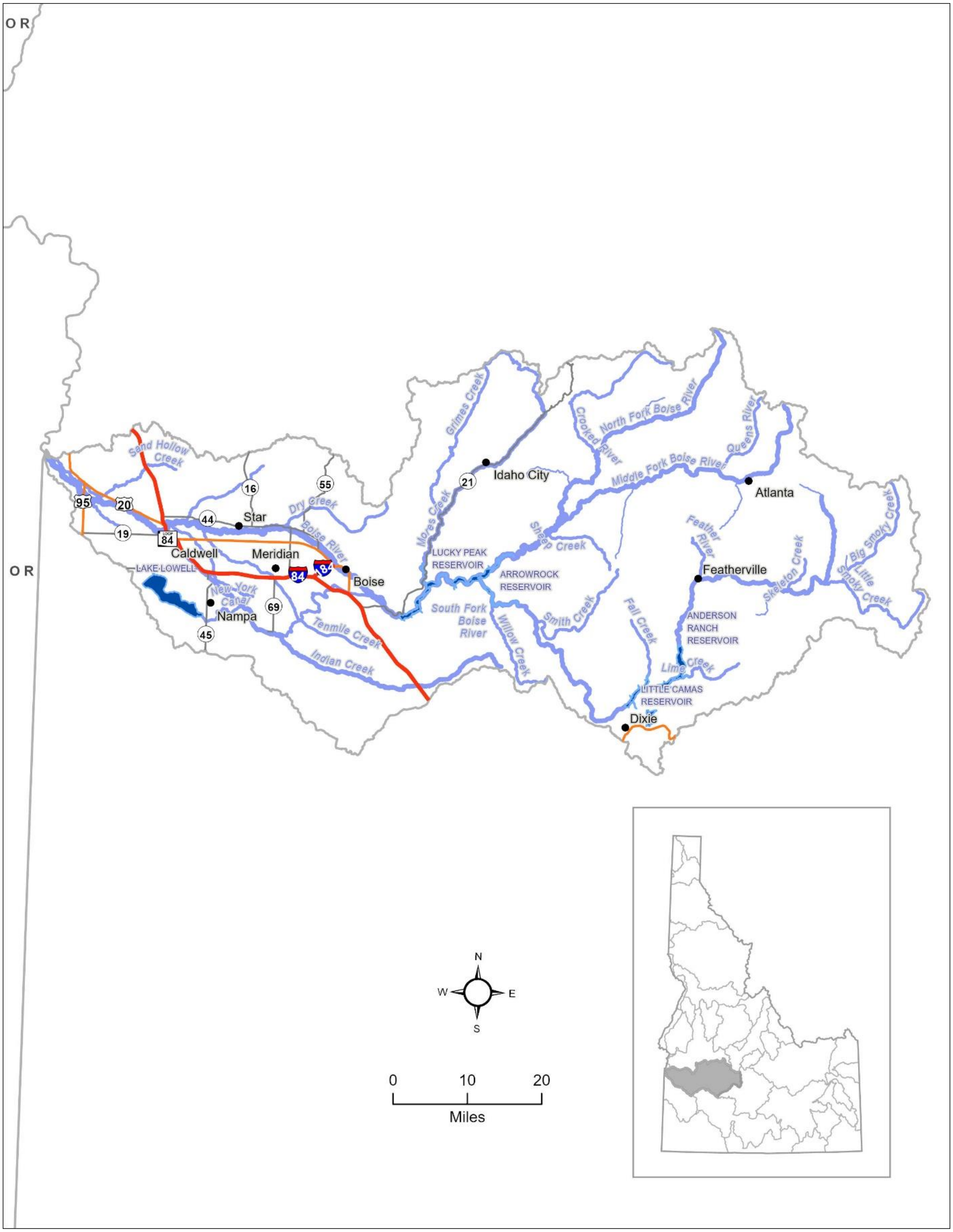
Sagehen Reservoir (180 acres)	Rainbow Trout Redband Trout	Hatchery-supported Native	General General	Maintain stocking program with sterile Rainbow Trout catchables Monitor spawning tributaries to Sage Hen Reservoir, and contribution of adfluvial Redband Trout to the reservoir. Inventory tributary streams to prioritize habitat improvement. Partner with other agencies to improve habitat conditions.
North Fork Payette River from Banks to Cascade Dam, including tributaries (70 miles)	Rainbow Trout	Wild/natural Hatchery-supported	General General	Work with landowners and volunteer groups to improve habitat conditions for wild trout in mainstem and tributaries. Concentrate stocking of sterile hatchery fish in high-use areas.
North Fork Payette River from Tamarack Fall Bridge to Lardo Dam (24 miles)	Rainbow Trout Coho Salmon	Wild/natural Hatchery-supported	General General	Monitor population status of migratory salmonids and determine effects of low summer flows and elevated temperatures on salmonid production. Seek to improve summer flows and temperature conditions. Maintain protective regulations to conserve naturally reproducing trout, while providing harvest opportunity with sterile hatchery catchable trout in high-use areas. Work with the county, cities, land managers, and private landowners to improve public access for fishing along this stretch of river.
North Fork Payette River from Payette Lake to headwaters, including Fisher Creek and other tributaries (24 miles)	Rainbow Trout Cutthroat Trout Kokanee Kokanee Brook Trout	Wild/natural Hatchery-supported Wild/natural Hatchery-supported Incompatible	General General General General	Monitor status of naturally reproducing trout and kokanee. Maintain protective regulations for spawning kokanee. Work with irrigation company to monitor and maintain flows during the summer period to achieve 60 cfs instream flow water right. Supplement fishery with hatchery fingerlings and/or catchables as appropriate. Promote reduction of Brook Trout through liberal harvest regulations.
Gold Fork River and tributaries (16 miles)	Rainbow Trout Brook Trout Bull Trout	Wild/natural Hatchery-supported Incompatible Native	General General Conservation	Monitor status of naturally reproducing trout. Seek opportunities to improve natural production including improved connectivity and increasing summer flows. Supplement with hatchery trout in high angler use areas. Promote reduction of Brook Trout through liberal harvest regulations. Assess feasibility of large-scale chemical removal. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
Lake Fork Creek from mouth to Little Payette Lake, including tributaries (20 miles)	Rainbow Trout Coho Salmon	Wild/natural Hatchery-supported	General General	Monitor status of migratory salmonids. Determine effects of low summer flows, elevated temperatures, and unscreened diversions on salmonid production. Improve flows, temperature, and passage by obtaining grant funds, developing partnerships, and implementing projects. Assess angling exploitation and use on spawning Rainbow Trout in the spring to determine if restrictive regulations are warranted.

Boulder Creek and tributaries (30 miles)	Rainbow Trout Brook Trout	Wild/natural Incompatible	General	Enhance natural trout production in drainage. Work with landowners and land management agencies to improve fish habitat. Promote reduction of Brook Trout through liberal harvest regulations.
Valley County ponds (1,247 acres)	Rainbow Trout Panfish	Hatchery-supported Hatchery-supported	General Yield	Evaluate use and exploitation of hatchery stocked catchable trout in community ponds. Use data to inform stocking frequency and abundance. Continue working with landowners and land management agencies to provide adequate access to community ponds. Assess feasibility and appropriateness of establishing panfish opportunity in community ponds.
Horsethief Reservoir (260 acres)	Rainbow Trout Brown Trout Kokanee Bullhead	Hatchery-supported Incompatible	General	Provide diverse year-round opportunity with fingerling and catchable stocking of several salmonid species throughout the year. Evaluate use and exploitation of stocked salmonids and adjust stocking request as necessary to maximize use. Work with partners to maximize angler accessibility throughout the year. Monitor bullhead abundance in gill net surveys and angler creel. Consider removal efforts if necessary to improve trout growth and catch rates.
Tripod Reservoir (5 acres)	Rainbow Trout	Wild/natural Hatchery-supported	General	Monitor status of naturally reproducing trout. Supplement fishery with stocked catchables as necessary. Work with land managers to maintain and improve angler access.
Louie Lake (25 acres)	Cutthroat Trout Golden Trout	Hatchery-supported	Trophy	Monitor success of restrictive regulations for producing trophy size trout.
Lake Cascade (27,150 acres)	Yellow Perch Panfish Bass Rainbow Trout Coho Salmon	Wild/natural Wild/natural Wild/natural Wild/natural Hatchery-supported	Trophy General Quality General General	Continue annual monitoring to detect significant changes in species composition and/or abundance. Identify factors influencing annual recruitment and survival of perch. Consider reducing Northern Pikeminnow abundance if necessary to improve juvenile perch survival. Periodically assess angler effort, catch, and harvest to determine if/when regulation changes may be warranted. Work with bass groups to develop a monitoring program for bass growth, exploitation, and use. Improve tributary habitat condition and access for natural salmonid production. Continue strong support for water quality improvement studies and encourage timely implementation. Creel surveys will be done to assess angler use and harvest and assist in evaluating and refining salmonid stocking policy if needed. Stocking program of at least two salmonids in the reservoir to enhance fishing success and opportunity.
Little Payette Lake (1,440 acres)	Rainbow Trout Smallmouth Bass Tiger Muskie Kokanee	Hatchery-supported Wild/natural Hatchery-supported Wild/natural	General Quality Trophy Yield	Monitor nongame fish, trout, and tiger muskie populations. Continue tiger muskie program to utilize sucker and Pikeminnow populations. Evaluate translocating Smallmouth Bass from other nearby populations.

Upper Payette Lake (300 acres)	Rainbow Trout Kokanee	Hatchery-supported	General	Determine effectiveness of current stocking programs for Rainbow Trout and kokanee. Explore feasibility of establishing naturally reproducing salmonid to sustain the fishery.
Payette Lake (4,990 acres)	Lake Trout Kokanee Kokanee Rainbow Trout	Wild/natural Wild/natural Hatchery-supported Hatchery-supported	Trophy General General General	Reduce lake Trout recruitment by suppression gillnetting to improve kokanee survival. Tag and release larger lake trout and use tag returns to evaluate use and exploitation. Monitor kokanee numbers both in lake and in spawning runs. Protect adult kokanee in North Fork Payette River during spawning. Supplement kokanee with stocking and monitor results.
Middle Fork Payette River to Silver Creek and up Silver Creek to above Silver Creek Plunge bridge (30 miles)	Rainbow Trout Cutthroat Trout Redband Trout Mountain Whitefish Brook Trout Bull Trout	Hatchery-supported Wild/natural Native Native Incompatible Native	General General General General	Put-and-take with sterile catchable Rainbow Trout. Periodically evaluate catch rates and angler satisfaction to determine future allocation. Monitor populations using established snorkeling transects. Collaborate with other agencies to specify minimum stream flow requirements for supporting native fish populations. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
Middle Fork Payette River upstream from Silver Creek and above bridge directly above Silver Creek Plunge (33 miles)	Redband Trout Cutthroat Trout Mountain Whitefish Brook Trout Bull Trout	Native Incompatible Native	General General	Retain as a native fishery. Monitor populations using established snorkeling transects. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance. .
Deadwood River from mouth to Deadwood Dam, including tributaries (25 miles)	Redband Trout Mountain Whitefish Bull Trout	Native Native	General General	Manage as native fishery. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance. Encourage water managers to improve flow and temperature regimes

Deadwood Reservoir and tributaries (3,000 acres)	Kokanee Kokanee Cutthroat Trout Rainbow Trout Rainbow Troutf Mountain Whitefish Brook Trout Bull Trout	Wild/natural Hatchery-supported Wild/natural Hatchery-supported Native Incompatible Native	General General General	Manage kokanee population for multiple objectives, including feral broodstock and recreational fishery by controlling escapement and/or stocking when needed. Monitor kokanee size and year classes with gill net surveys, escapement weirs, and other methods as needed. Investigate current trophic conditions and feasibility of reservoir fertilization to reach management objectives. Investigate spawner-recruitment model to improve escapement objectives. Periodically monitor self-sustaining population of Westslope Cutthroat Trout, hybrids, and Rainbow Trout. Collaborate with BOR to assess abundance and life history, and entrainment losses. Explore opportunities to increase distribution and abundance.
South Fork Payette River from Mouth to headwaters, including tributaries (180 miles)	Redband Trout Mountain Whitefish Rainbow Trout Brook Trout Bull Trout	Native Hatchery-supported Incompatible Native	General General General	Periodically evaluate wild salmonid densities with snorkeling surveys. Continue stocking catchable-sized Rainbow Trout. Utilize sterile trout only and stock near campgrounds and other easily accessed areas from the mouth of the Deadwood to Ten Mile Creek. Evaluate return-to-creel of stocked trout. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
Clear Creek (21 miles)	Redband Trout Mountain Whitefish Bull Trout	Native	General	Wild trout management. Collaborate with other agencies to periodically monitor populations. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
Bull Trout and Martin Lakes (90 acres)	Rainbow Trout Brook Trout	Hatchery-sustained Incompatible	General	Periodically evaluate angler use and exploitation. Remove or reduce Brook Trout densities with netting and electrofishing. Stock with YY males if available.

21. Boise River Drainage



Overview

The Boise River basin is located in southwestern Idaho and drains an area of 4,100 square miles. The headwaters of the Boise River originate in the Sawtooth Mountains at elevations in excess of 10,000 ft. It flows in a westerly direction for about 200 miles before joining the Snake River near Parma at an elevation of 2,100 ft. Major tributaries to the Boise River include the Middle Fork, North Fork, and South Fork rivers, as well as Mores Creek. This basin has an average annual runoff of 2,005,000 acre-feet of water.

The Boise River has three major mainstem impoundments, Anderson Ranch, Arrowrock and Lucky Peak reservoirs and one large off-channel impoundment, Lake Lowell. The four large reservoirs have a combined storage capacity of 1,143,249 acre-feet of water and are managed to provide for irrigation, flood control, recreation, hydropower, and stream channel maintenance flows. A proposed pumped storage hydropower project could potentially add up to 150,000 acre-feet of water storage capacity to the Boise River system although impacts to water quality and fish and wildlife populations are still being explored. Because of the wide range in elevations, geographic features, and water uses, the Boise River has a great variety of habitat types and fish species. The drainage includes the rapidly growing major population center in the state, has over 250,000 acres of irrigated cropland, and some of Idaho's earliest mining, logging, and hydroelectric developments. Human-caused impacts have degraded some habitats creating limitations on fishery productivity, while other habitats are relatively pristine. Mining, in particular, has had a profound effect in many watersheds including Mores, Grimes, and the North, Middle, and South forks of the Boise River. Lasting impacts include loss of habitat complexity and flood plain connection and releasing toxic metals into the sediment and substrate.

From the mouth of the Boise River upstream to near the city of Star, low summer flows and poor water quality limit sport fish production. This section of river supports fair to moderate densities of Smallmouth Bass and Channel Catfish, though effort is low due to limited access and poor water quality. From Star upstream to Lucky Peak Dam, the river changes from a warmwater to a coldwater fishery. Mountain Whitefish make up the bulk of the game fish biomass, with hatchery Rainbow Trout, wild Rainbow Trout, and Brown Trout supporting the bulk of the fishing opportunity. Wild trout populations steadily increased during the early 2000’s but have plateaued recently. Higher abundances are linked to utilizing a BOR stream maintenance flow water right using stored water from Lucky Peak during the winter, and improved water quality. A lack of juvenile rearing habitat, particularly during low winter flows has been identified as perhaps the single most important factor limiting wild trout populations in the lower Boise River. The construction of berms and dikes have constrained the river and disconnected the flood plain and aggressive wood removal practices have resulted in a loss of habitat complexity and riparian processes. Improving water quality, water temperature, fish passage (irrigation diversions, whitewater park features), and flow management are key to maintaining and improving the lower Boise River fishery. Maintaining in-channel stream flows during the winter amongst an increasing number of winter water right applications is a high priority for the Department. When available, surplus hatchery Chinook Salmon adults are translocated in the summer and hatchery steelhead adults are translocated in the fall, which create intense fisheries. Upstream from Lucky Peak and Arrowrock reservoirs, rivers and streams support Redband Trout, Mountain Whitefish, Bull Trout, Brook Trout, kokanee (during spawning migrations), as well as native nongame fish. Catchable-sized hatchery Rainbow Trout are stocked in some reaches to increase catch rates and provide additional harvest opportunity in easily-accessible areas. The Middle Fork Boise from the North Fork confluence up to Kirby Dam, outside of Atlanta, Idaho, is managed for native trout, and the South Fork Boise River downstream from Anderson Ranch Dam is managed for wild trout. These drainages have also been identified as core habitat for Bull Trout recovery efforts.

The South Fork Boise River between Arrowrock Reservoir and Anderson Ranch Dam was the first designated quality trout stream segment in southwestern Idaho and remains the premier wild trout fishery in the drainage. Rainbow Trout and Mountain Whitefish make up the majority of the fish caught. The Rainbow Trout fishery has been managed with trophy regulations. In 1978, anglers caught an estimated 19,150 Rainbow Trout and released 18,059 (94%). In 1988, anglers caught an estimated 18,400 Rainbow Trout and released 99%. Between 1988 and 2002, angler effort increased 66%. Recent studies have improved understanding of Rainbow Trout reproduction, over-winter survival, and recruitment as well as tracked long-term trends in juvenile and adult Rainbow Trout abundance. Juvenile and adult abundances have been relatively stable for the last two decades. Despite the importance of this fishery, there are no minimum stream flow protections or agreements in place for the South Fork Boise River in this section.

A 1988 creel survey of the South Fork Boise River between Featherville and Big Smoky Creek estimated effort at 365 hours/mile. Hatchery Rainbow Trout made up over 80% of fish checked in angler's creels but the overall return rates were relatively low, indicating hatchery fish needed to be more efficiently utilized. Hatchery fish are now stocked only at campgrounds in the lower portion of this area and the upper section above Beaver Creek is being managed for native species and harvest opportunity. A recent population survey completed in 2023 suggests that Redband Trout densities are low and Mountain Whitefish densities are high in the upper South Fork Boise River. Future investigations should focus on identifying factors limiting wild Redband Trout within the upper South Fork Boise River.

Popular reservoir fishing opportunities exist at Lake Lowell, Lucky Peak, Arrowrock, Anderson Ranch, and Little Camas reservoirs. The Lake Lowell fishery consists primarily of Largemouth Bass, Smallmouth Bass, Yellow Perch, Black Crappie, Bluegill, and Channel Catfish. In 2019 the Department developed a fisheries guidance document for Lake Lowell to coordinate state fisheries management objectives with USFWS Deer Flat Refuge objectives. Overall, fisheries quality is limited by high abundances and biomass of Common Carp and Largescale Sucker as well as by reservoir drawdowns and seasonally poor water quality. In the fall of 2023, the Department discovered illegally introduced Walleye are likely self-sustaining in Lake Lowell. Arrowrock, Lucky Peak, and Anderson Ranch reservoirs provide "two story" fisheries with Smallmouth Bass occupying the warm, inshore waters and Rainbow Trout and kokanee dominating the cold, midwater fishery. Fall Chinook Salmon were stocked into the Boise River impoundments starting in 2013 but were discontinued in 2019 due to poor performance and angler input. The management intent of the reintroduction was to provide a new fishing opportunity that could be sustained by the abundant kokanee. Although this Chinook population is landlocked, there is evidence of natural production. Adfluvial Bull Trout utilize Arrowrock and Anderson Ranch as rearing and wintering habitats. The Rainbow Trout fishery in Arrowrock and Lucky Peak depends primarily on stocked catchable-sized fish. The kokanee fisheries in Arrowrock and Lucky Peak reservoirs are also hatchery-supported. Little Camas Reservoir is a very productive hatchery trout fishery following consecutive good water years, but carryover of stocked trout is inconsistent due to frequent drought conditions. Little Camas Reservoir does not have a conservation pool that would ensure carryover, and Commission-approved salvage orders are common occurrence.

Good spawning conditions in tributary streams provide a continuous but highly variable supply of kokanee in Anderson Ranch Reservoir. Large fires in the South Fork Boise River drainage in 2013 caused tributary washouts that compromised kokanee spawning habitat throughout the basin for several years. Anderson Ranch is one of the more popular kokanee fisheries in southern Idaho, and anglers harvested an estimated 40,000+ kokanee in 1979, 34,000 in 1985, and 29,000 in 1997. Kokanee populations in the reservoir have fluctuated significantly due to extreme high and low water conditions in the drainage. Recent high flow events, in 2017 and 2019, entrained many kokanee to downstream reservoirs and significantly reduced kokanee abundance. These same high flow events redistributed spawning gravels within the basin and have benefited kokanee natural production. Recent surveys indicate we are starting to see the kokanee population rebuild and we are nearing our management objectives for catch rates and size structure. Anderson Ranch is one of the more popular kokanee fisheries in southern Idaho, and anglers harvested an estimated 40,000+ kokanee in 1979, 34,000 in 1985, and 29,000 in 1997. The popularity of kokanee angling appears to be increasing, and more contemporary estimates of kokanee harvest, angler effort and preferences are needed. These estimates will be important to understanding potential impacts to the fish communities and anglers associated with future challenges related to water management, reservoir capacity, and renewable energy projects, such as pumped storage hydroelectric projects.

Within the Treasure Valley, the lower Boise River and a complex of approximately 50 community ponds provide diverse and close-to-home fishing opportunity for more than one million residents and visitors. These community waters support some of the most intensive fishing pressure in the state, with more than 5,000 hours per acre per year on some ponds. Both the river and pond fisheries are supplemented with hatchery Rainbow Trout which provide much of the harvest opportunity. Most ponds also contain self-sustaining warm water fish communities, and some are stocked with Channel Catfish. Historically, these waters have been managed as yield fisheries, and an important component of angler recruitment in the Southwest Region. More recently, anglers have indicated they would like to see community ponds managed for a diversity in angling opportunities, such as quality or trophy sized bass or panfish.

HMLs within the Boise River drainage provide anglers with a variety of fishing opportunity. Rainbow Trout, Cutthroat Trout or Brook Trout are found in many lakes. Arctic Grayling and Golden Trout provide fisheries in a few alpine locations. There are 224 HMLs in the Boise drainage. Most of these lakes are too small to support a fishery. The Department presently stocks 68 of the HMLs (~801 acres) in the Boise River system according to statewide direction (High Mountain Lake Management).

Objectives and Strategies

1. Objective: Provide a diversity of fishing opportunities within the Boise River drainage.

   Strategy: Manage for wild/natural trout where habitats and fish populations will sustain acceptable fisheries.

   Strategy: Optimize kokanee stocking densities, timing, and fingerlings sizes for Anderson Ranch, Arrowrock, and Lucky Peak reservoirs.

   Strategy: Evaluate the fish communities to develop trends using standardized lowland lake surveys at Lucky Peak, Arrowrock, and Anderson Ranch reservoirs.

   Strategy: Periodically conduct creel surveys to determine number of fish harvested, angler effort, and preferences within basin waterbodies.

   Strategy: Manage warmwater fisheries to provide a variety of fishing opportunities.

   Strategy: Continue to support and develop community fishing waters and ponds especially in underserved areas and promote these waters for angler recruitment and education.

Strategy: Use the community ponds to provide a diversity of fishing opportunities for bass and panfish. Determine whether harvest or size restrictions and periodic restocking of warmwater species are necessary.

Strategy: Continue to work with municipalities to pursue improvements at existing community ponds, such as fish habitat structures, aquatic plant control, handicapped access, docks, restrooms, and parking.

2. Objective: Seek improved land and water management practices that significantly protect and enhance fish habitats.

Strategy: Participate in collaborative efforts to identify and prioritize habitat improvement projects that address factors that limit the production and survival of fish populations.

Strategy: Collaborate with other agencies, resource partners, and private landowners for high priority opportunities to protect or improve fish habitats, enhance flows, improve water quality, and remove migration barriers.

Strategy: Work with land management agencies to develop and implement riparian vegetation objectives where grazing, development, or other activities have degraded riparian zones.

3. Objective: Monitor effects of land management activities, fishery regulations, and other human activities on fish habitats and fish populations.

Strategy: Collect standardized trend data on habitat and fish populations at established sites throughout the Boise River drainage and collaborate with other agencies or resource partners in similar efforts whenever possible.

4. Objective: Seek changes to reservoir management and stream flows that benefit fish.

Strategy: Continue to seek a reduction of extreme drawdowns in reservoirs in the Boise River drainage and look for opportunities to establish minimum pool agreements.

Strategy: Continue to seek a formalized agreement that provides for adequate winter flows downstream of Anderson Ranch Reservoir.

Strategy: Continue to seek moderation of rapid increases or decreases of flow in the Lower Boise River for flood control or due to Barber Dam operations.

Strategy: Continue to collaborate with BOR and other partners to provide technical assistance to ensure winter stream channel maintenance flows are allocated in a manner that best benefit fish populations in the Lower Boise River.

Strategy: Study water management at Lake Lowell to determine the relationship between fish production and water levels.

5 Objective: Maintain/Improve distribution and population status of Bull Trout.

Strategy: Identify barriers for removal to connect all possible Bull Trout habitat.

Strategy: Reduce deleterious effects from nonnatives, especially Brook Trout and collaborate with other agencies to identify and implement management actions when possible.

Strategy: Continue angler educational program about Bull Trout in the drainage.

Strategy: Continue to define and monitor populations of Bull Trout and collaborate with other agencies to fill data gaps on current status and distribution.

Strategy: Continue to coordinate with the BOR on Bull Trout studies in Arrowrock Reservoir, Anderson Ranch Reservoir, and upper Boise River drainage.

7. Objective: Provide and maintain fishing and boating access throughout the drainage.

Strategy: Increase access to waters with insufficient access by securing property rights and developing sites.

Strategy: Work with local governments to increase or improve access within their jurisdictions.

Strategy: Seek grants and partnerships to decrease development and maintenance costs.

Strategy: Explore novel solutions (i.e. cost sharing or novel funding mechanisms) to accommodate and alleviate issues associated with increased use of Department sites by non-traditional user groups (i.e. non-hunting/angling).

8. Objective: Document and understand avian predation throughout the drainage.

Strategy: Where feasible, minimize avian predation in areas where predation is suspected to impact native or important sportfish populations. Prioritize hazing or control actions in heavy predation areas where avian predators and anglers compete or where predation results in substantial fish population impacts.

Drainage: Boise River				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
Boise River mouth to Star (35 miles)	Rainbow Trout Mountain Whitefish Largemouth Bass Smallmouth Bass Channel Catfish	Wild/natural	General	Work with state and federal regulatory agencies as well as private landowners to improve water quality, habitat condition, and floodplain development practices. Evaluate fish population, species composition, and size structure. Monitor water use to ensure adequate flows are maintained for fisheries. Improve access especially to the downstream portion of this reach by securing easement or property rights and by developing fishing and boating access sites.
Boise River Star to Lucky Peak (30 miles)	Rainbow Trout Steelhead Chinook Salmon Rainbow Trout Brown Trout Mountain Whitefish	Hatchery-supported Wild/natural	General General	Work with state and federal regulatory agencies and private groups to improve water quality, flow regimes, and in-stream and riparian habitat conditions. Stock with catchable Rainbow Trout year-round, hatchery-produced adult steelhead, and Chinook Salmon seasonally if available. Monitor abundance and size structure of wild fish populations. Complete evaluation of age-0 wild trout density and survival and characterize leading factors limiting trout production. Periodically evaluate angler use and exploitation of hatchery and wild trout populations and propose changes as needed if use or exploitation is limiting populations or size structure. Investigate use of egg boxes as tool to increase trout production. Foster efforts to prioritize and improve habitat complexity, water quality, and reconnect floodplain and riparian processes, especially in side channels and tributaries. Collaborate with local and federal agencies and private groups to maintain or enhance in-channel wood and woody debris.
Mores Creek (40 miles)	Rainbow Trout Mountain Whitefish Bull Trout	Wild/natural Native	General General	Work with regulatory agencies to improve habitat complexity and connectivity, increase stream flows and reduce stream temperatures. Monitor recreational suction dredging and water use to ensure minimal impacts to fish populations and stream habitat. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
Boise River Drains (92 miles)	Rainbow Trout Brown Trout Mountain Whitefish	Hatchery-supported Wild/natural	General	Work with communities and regulatory agencies to improve water quality and habitat conditions. Encourage and improve angler access.

Treasure Valley Community Fishing Ponds ~ 50 public ponds (e.g. Park Center, Kleiner, Duff Lane, Wilson Ponds, Caldwell) (110 acres)	Rainbow Trout Largemouth Bass Smallmouth Bass Panfish Bullheads Channel Catfish	Hatchery-supported Wild/natural	General General Quality Trophy	Manage to provide seasonal hatchery trout opportunities for novice and experienced anglers in select ponds. Periodically evaluate angler use and exploitation to determine locations and stocking densities. Publicize stocking schedule events to maximize angler outreach and education. Investigate harvest and size restrictions for bass and panfish to provide a diversity of angling opportunities for novice and experienced anglers. Re-stock periodically to restart populations as needed. Work with city and county governments to improve amenities and fish habitats. Monitor avian predation on hatchery trout and enact hazing and control measures as needed.
Middle Fork Boise River from Arrowrock Reservoir to North Fork Boise River (11 miles)	Rainbow Trout Redband Trout Mountain Whitefish Bull Trout	Hatchery-supported Native Native	General General General	Stock with catchable Rainbow Trout following high-water period through mid-summer or when water temperatures become marginal. Evaluate return to the creel of hatchery trout. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
Middle Fork Boise River from North Fork to Atlanta Power Dam (35 miles)	Redband Trout Mountain Whitefish Cutthroat Trout Mountain Whitefish Brook Trout Bull Trout	Native Wild/natural Incompatible Native	Quality General General	Manage for high catch rates on wild fish. Collaborate with other agencies to pursue management actions to reduce Brook Trout numbers. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
Middle Fork Boise River from Atlanta Power Dam to Sawtooth Wilderness Boundary (4 miles)	Redband Trout Mountain Whitefish Brook Trout Bull Trout	Native Incompatible Native	General General	 Collaborate with other agencies to pursue management actions to reduce population. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance. Collaborate with other agencies to investigate designing and changes to constructing Kirby Dam fish ladder Maintain the Kirby Dam fish ladder and work with Atlanta Power Co. and regulatory agencies to ensure FERC operational mandates are followed.

Middle Fork Boise River upstream of Sawtooth Wilderness Boundary and all tributaries (30 miles)	Redband Trout Mountain Whitefish	Native	General	Manage for high catch rates and for wild fish.
	Brook Trout	Incompatible		Collaborate with other agencies to pursue management actions to reduce population.
	Cutthroat Trout	Wild/natural	General	
	Bull Trout	Native	General	Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
South Fork Boise River from Neal Bridge to Anderson Ranch Dam (30 miles)	Rainbow Trout Redband Trout Mountain Whitefish	Wild/natural	Trophy	Manage for high catch rates for large fish. Monitor angler catch rates and effort periodically. Monitor wild trout abundance and size structure every three years.
	Bull Trout	Native	General	Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
South Fork Boise River from Anderson Ranch Reservoir to Beaver Creek (10 miles)	Rainbow Trout	Hatchery-supported	General	Periodically monitor angler use and harvest.
	Redband Trout Mountain Whitefish	Native	General	Identify factors liming success of wild trout abundance. Monitor wild trout abundance and size structure every three years.
	Kokanee	Wild/natural	General	Operate kokanee weir to limit kokanee escapement during unusually high production years.
	Bull Trout	Native	General	Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance. Work with BOR to establish long-term adfluvial Bull Trout monitoring program.
South Fork Boise River from Beaver Creek to Big Smoky Creek (10 miles)	Redband Trout Mountain Whitefish	Native	General	Good quality habitat for wild trout although growth is slow due to the low stream productivity. Identify factors limiting success of wild trout abundance. Monitor wild trout abundance and size structure every three years. Evaluate the use of sterile hatchery Rainbow Trout to improve catch rates within the reach.
	Kokanee	Wild/natural	General	
	Bull Trout	Native	General	Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
South Fork Boise River from Big Smoky Creek to headwaters (15 miles)	Rainbow Trout	Hatchery-supported	General	Stock only sterile Rainbow Trout to limit introgression with Redband Trout. Good quality habitat, however low natural stream productivity limits wild trout growth. Identify factors limiting success of wild trout abundance. Monitor wild trout abundance and size structure every three years.
	Redband Trout Mountain Whitefish	Native	General	
	Kokanee	Wild/natural	General	
	Bull Trout	Native	General	Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.

Big Smoky Creek from mouth to headwaters (20 miles)	Rainbow Trout Redband Trout Mountain Whitefish Kokanee Bull Trout	Hatchery-supported Native Wild/natural Native	General General General General	Evaluate hatchery trout returns and adjust stocking accordingly. Continue to prioritize camping access areas for stocking locations. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
Little Smoky Creek (20 miles)	Rainbow Trout Redband Trout Mountain Whitefish Bull Trout	Hatchery-supported Native Native	General General General	Periodically monitor angler use and harvest. Maintain naturally reproducing populations and harvest opportunity. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
All other streams/tributaries in South Fork Boise River drainage upstream from Anderson Ranch Reservoir (40 miles)	Redband Trout Mountain Whitefish Bull Trout	Native Native	General General	Maintain naturally reproducing populations and harvest opportunity. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
North Fork Boise River from mouth to Rabbit Creek (9 miles)	Redband Trout Mountain Whitefish Bull Trout	Native Native Native	General General General	Manage for high catch rates Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
North Fork Boise River from Rabbit Creek to Deer Park (Hunter Creek) (20 miles)	Rainbow Trout Redband Trout Mountain Whitefish Bull Trout	Hatchery-supported Native Native	General General General	Manage for high yield . Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
North Fork Boise River from Deer Park to headwaters and all tributaries (65 miles)	Redband Trout Mountain Whitefish Bull Trout	Native Native	General General	Manage for high catch rates. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
Lucky Peak Reservoir (2,770 acres)	Rainbow Trout Kokanee Smallmouth Bass Yellow Perch Chinook Salmon Bull Trout	Hatchery-supported Wild/natural Native	General General General	Maintain popular kokanee fishery. Stock annually with catchable-sized Rainbow Trout, and fingerling kokanee. Monitor kokanee escapement and recruitment. Continue to stock catchable-sized Rainbow Trout. Periodically evaluate overall fishery with standardized survey. Seek changes to recreation management to provide no wake boat angling areas and time periods during summer months. Engage in FERC relicensing process to improve reservoir fishery conditions. Monitor Bull Trout population and continue to support periodic efforts to trap and haul entrained fish upstream to Arrowrock Reservoir.

Arrowrock Reservoir (3,020 acres)	Rainbow Trout Kokanee Redband Trout Mountain Whitefish Smallmouth Bass Yellow Perch Bull Trout	Hatchery-supported Native Wild/natural Native	General General General General	Maintain popular kokanee fishery. Stock annually with catchable-sized Rainbow Trout, and fingerling kokanee. Monitor kokanee escapement and wild recruitment. Continue to seek minimum conservation pool. Periodically evaluate overall fishery with standardized survey. Monitor Bull Trout population and life history.
Lake Lowell (8,830 acres)	Largemouth Bass Smallmouth Bass Channel Catfish Panfish Rainbow Trout Tiger Muskie Walleye	Wild/natural Wild/natural Hatchery-supported Incompatible	Quality General Trophy	Determine angler use and harvest rates. Manage bass with primary emphasis on quality fishery. Monitor panfish harvest. Assess productivity, forage fish abundance, and panfish recruitment. Evaluate channel catfish stocking program. Reduce Common Carp and Largescale Sucker abundance. Continue to evaluate tiger muskie stocking program and develop strategies to increase survival.
Anderson Ranch Reservoir (4,600 acres)	Rainbow Trout Kokanee Kokanee Fall Chinook Salmon Yellow Perch Smallmouth Bass Bull Trout	Hatchery-supported Wild/natural Native	General General General	Evaluate the contribution hatchery released sterile Rainbow Trout fry and kokanee make to the reservoir fishery. Manage for a mean catch rate of 0.3 kokanee/hour with mean harvest size of 12 to 14 inches. Assess angler opinion and preference for size and abundance. Continue to monitor Chinook population and manage against natural reproduction. Continue annual angler survey. Manage avian predators near the confluence of the South Fork Boise River, as needed. Monitor Bull Trout population and life history. Work with BOR to establish long-term adfluvial bull Trout monitoring program. Work with BOR to establish long-term adfluvial bull Trout monitoring program.
Little Camas Reservoir (960 acres)	Rainbow Trout Smallmouth Bass	Hatchery-supported	General	Continue stocking magnum catchables. Stock fingerling plants to improve carryover in high water years. Seek minimum pool to maximize hatchery Rainbow Trout carryover.
Mountain Home Reservoir (405 acres)	Rainbow Trout Largemouth Bass Bluegill	General		Work with irrigation companies to leave conservation pool so trout and other sportfish can overwinter.
Featherville dredge ponds (3 acres)	Rainbow Trout	Hatchery-supported	General	Continue stocking hatchery Rainbow Trout. Periodically monitor angler use and harvest.
Trinity Lakes (28 acres)	Rainbow Trout Cutthroat Trout	Hatchery-supported	General	Stock annually with catchables. Stock sterile Cutthroat Trout fingerlings for diversity.

22. Owyhee River Drainage, Bruneau River Drainage, and Minor tributaries South of Snake River

Overview

The Owyhee and Bruneau River basins are located in southwestern Idaho, southeastern Oregon, and northern Nevada. These basins encompass approximately 11,340 square miles of semiarid high desert country; of which about 8,000 square miles are within Idaho. Many river sections and their tributaries flow through deeply-incised canyons. Elevations in the Owyhee drainage range from 7,800 feet in the Owyhee Mountains to 2,400 feet at the Snake River. The Owyhee River has an annual average discharge of 661,500 acre-feet of water at the Oregon/Idaho border. Elevations in the Bruneau drainage range from over 10,000 feet in the Jarbidge Mountains to 2,455 feet at the mouth. The Bruneau River has an annual average discharge of 292,000 acre-feet of water. The majority of these basins are public and private rangelands. Cattle grazing is common throughout these drainages and a large-scale silver and gold mine, DeLamar Mine, is proposed in the Owyhee Drainage.

The upper Owyhee River drainage is within the native range of Redband Trout. Due to the unique qualities of this fish, limited potential for development of other fisheries, and the inaccessibility, this entire drainage will be managed to conserve native Redband Trout. A range-wide, multi-state conservation strategy for Interior Redband Trout was developed which identified objectives for monitoring, habitat improvement, and species conservation within these drainages (IRCT 2016). Smallmouth Bass have colonized much of the mainstem and major tributaries in the Idaho portion of the drainage from downstream sources. Man-made or natural barriers have prevented establishment in some tributaries. Smallmouth Bass eliminate nearly all native fish including Redband Trout soon after colonizing new stream or river segments. For this reason, low fishing effort, and slow growth rates, Smallmouth Bass are managed with year-round seasons and no minimum length limit. Lahontan Cutthroat Trout are stocked in three reservoirs near Riddle that have no surface connection to the Owyhee River drainage.

From the mouth of the Bruneau River approximately 16 miles upstream to Hot Springs (near two large irrigation diversion dams), water quality and temperatures are not suitable for coldwater species year-round. Native nongame and nonnative fishes utilize this reach and may migrate between the river and CJ Strike Reservoir. Upstream of the diversion dams, the fish community is comprised nearly entirely on native species, seemingly the diversions have acted as barriers for decades and prevented nonnative fish colonization. During 2009, the Department fortified and improved the upper diversion, Hot Springs, by installing a sloped-velocity barrier with the intention of further reducing the likelihood of nonnative fish colonization upstream. Unfortunately, a few nonnative aquarium species (tilapia and betas) have been introduced to hot springs pools upstream of the diversion, but these species are limited to these habitats due to narrow thermal tolerances. Mountain Whitefish and other native species utilize the middle Bruneau River; however, Redband Trout only use this reach seasonally due to high summer water temperatures. The upper drainage and many headwater tributaries support Redband Trout on a year-round basis. Some angling effort occurs on the more accessible sections and tributary streams of the Bruneau River drainage; however, overall fishing effort is extremely low. A remnant population of Bull Trout exists in the Jarbidge River, a large tributary of the Bruneau, but primarily in headwater reaches in Nevada. The mainstem Jarbidge River and Bruneau River in Idaho may provide winter habitat for Bull Trout.

The Bruneau River, West Fork, lower East Fork, lower Sheep Creek, and Jarbidge River have been designated as National Wild Rivers.

Livestock grazing, roads, and mining on some tributary streams has impacted fish habitat, and efforts will continue to work with landowners and land management agencies to improve habitat. Process-based habitat restoration efforts that address improving riparian processes, shade, reduce stream temperatures and increase flows should be high priorities for Redband bearing streams.

Objectives and Strategies

1. Objective: Conserve and manage Redband Trout.

   Strategy: Monitor established trend sites at ten- to fifteen-year intervals.

   Strategy: Complete drainage assessments to improve knowledge of distribution and abundance of Redband Trout as well as to identify factors limiting populations.

   Strategy: Ameliorate limiting factors which may include restoring habitat, as well as removing or installing barriers.

   Strategy: Repopulate depleted streams where habitat conditions have been restored by translocating native Redband Trout from adjacent drainages.

   Strategy: Work cooperatively with state and federal land management agencies as well as grazing permittees and private landowners to improve riparian and aquatic habitats.

   Strategy: Work with DeLamar Mine and other mining companies to understand potential effects on fish and aquatic habitat and seek avoidance, minimizations, and mitigation measures when appropriate.

2. Objective: Conserve and manage Bull Trout.

   Strategy: Maintain no harvest rules for Bull Trout in the Jarbidge and upper Bruneau rivers.

   Strategy: Determine seasonal and spatial extent of Bull Trout in the Jarbidge and upper Bruneau rivers in Idaho.

   Strategy: Identify limiting factors, including Brook Trout distribution, and complete projects designed to ameliorate these factors.

   Strategy: Work cooperatively with state and federal land management agencies as well as grazing permittees and private landowners to improve riparian and aquatic habitats.

3. Objective: Improve or increase reservoir fishing opportunities.

   Strategy: Restock reservoirs with appropriate stocks of fish when drought conditions cause fish kills or dewatering.

   Strategy: Monitor reservoir fish populations and renovate reservoirs with undesirable nongame fish populations that limit the fishery.

   Strategy: Avoid stocking any species that may have deleterious effects to Redband or Bull Trout conservation efforts.

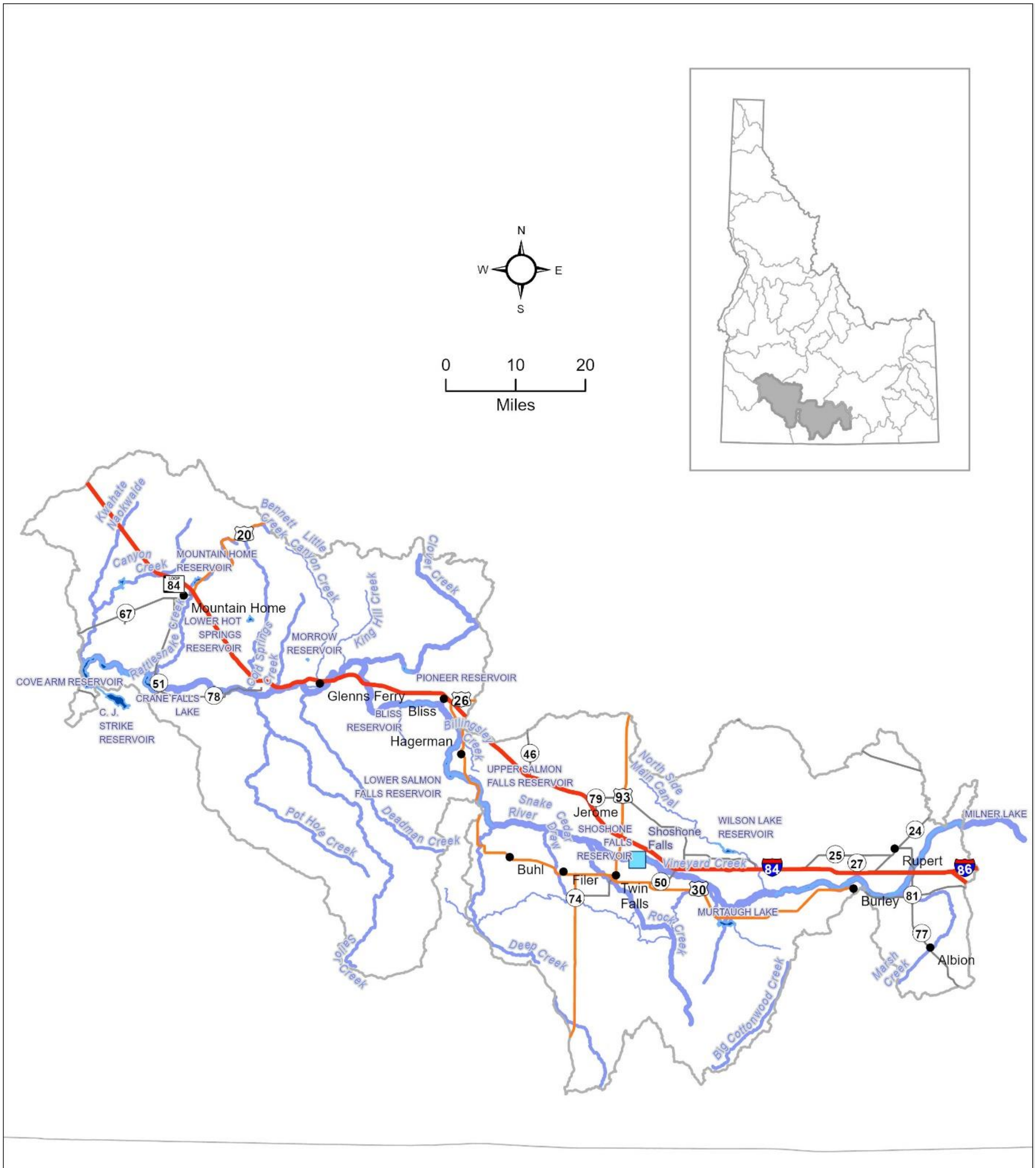
Strategy: Seek opportunities to improve access to existing privately-owned reservoirs in cooperation with federal, state, and private landowners.

Strategy: Seek opportunities to establish cooperative agreements with private landowners to gain access to existing reservoirs.

Drainage: Owyhee and Bruneau River				
Waterbody	Species of Interest	Management Strategies		Additional Management Directions
		Primary	Secondary	
Owyhee River (downstream of the South Fork) including tributaries (510 miles)	Redband Trout Smallmouth Bass	Native Wild/natural	General General	Evaluate current growth, size and age structure, and exploitation. Maintain wild Redband Trout populations. Implement Redband Trout Conservation Strategy. Consider removal of Smallmouth Bass harvest restrictions to support Redband Trout conservation efforts.
North Fork Owyhee River, including tributaries (80 miles)	Redband Trout Smallmouth Bass	Native Wild/natural	General General	Maintain wild Redband Trout populations. Implement Redband Trout Conservation Strategy. Consider removal of Smallmouth Bass harvest restrictions to support Redband Trout conservation efforts.
South Fork Owyhee River, including tributaries (50 miles)	Redband Trout Smallmouth Bass	Native Wild/natural	General General	Evaluate current growth, size and age structure, and exploitation. Maintain wild Redband populations. Implement Redband Trout Conservation Strategy. Work with Nevada Department Wildlife to avoid stocking trout that pose hybridization risks. Consider removal of Smallmouth Bass harvest restrictions to support Redband Trout conservation efforts.
Owyhee River (South Fork to Nevada state line), including tributaries (except Deep Creek, Battle Creek, and Blue Creek (355 miles)	Redband Trout Smallmouth Bass	Native Wild/natural	General General	Evaluate current growth, size and age structure, and exploitation. Maintain wild Redband Trout populations. Implement Redband Trout Conservation Strategy. Consider removal of Smallmouth Bass harvest restrictions to support Redband Trout conservation efforts.
Deep Creek, including tributaries (90 miles)	Redband Trout	Native	General	Evaluate current growth, size and age structure, and exploitation. Maintain wild Redband Trout populations.
Battle Creek, including tributaries (70 miles)	Redband Trout	Native	General	Evaluate current growth, size and age structure, and exploitation. Maintain wild Redband Trout populations.
Blue Creek, including tributaries (50 miles)	Redband Trout	Native	General	
Grasmere Reservoir (220 acres)	Cutthroat Trout Rainbow Trout	Hatchery-supported	General	Stock annually with Lake Lenore strain of Lahontan Cutthroat Trout fingerlings if water conditions allow. Sample periodically.
Shoofly Reservoir (90 acres)	Cutthroat Trout Rainbow Trout	Hatchery-supported	General	Stock annually with Lake Lenore strain of Lahontan Cutthroat Trout fingerlings if water conditions allow. Sample periodically.
Bybee Reservoir (240 acres)	Cutthroat Trout Rainbow Trout	Hatchery-supported	General	Stock annually with Lake Lenore strain of Lahontan Cutthroat Trout fingerlings if water conditions allow. Sample periodically.
Bruneau River mouth to upper diversion dam (15 miles)	Smallmouth Bass Channel catfish Rainbow Trout	Wild/natural	General	Manage for Smallmouth Bass, Channel Catfish, and seasonal Rainbow Trout fisheries. Monitor water temperatures.
Big Jacks Creek, Little Jacks Creek and tributaries (90 miles)	Redband Trout	Native	General	Manage for Redband Trout and implement Redband Trout Conservation Strategy. Work with BLM and private land owners to improve riparian habitat and riparian conditions.

Bruneau River from upper diversion dam to West Fork, including tributaries (except below) (75 miles)	Redband Trout Mountain Whitefish Bull Trout	Native Native Native	General General General	Manage for Redband Trout and Bull Trout. Work with BLM and private land owners to improve riparian habitat. Protect from invasion or introduction of non-native species Preserve upper diversion structure to prevent upstream invasion by non-native species. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
East Fork Bruneau River (Clover Creek) and tributaries (55 miles)	Redband Trout Mountain Whitefish Brook Trout Bull Trout	Native Incompatible Native	General General	Monitor fish community abundance and size structure periodically. Maintain native salmonid populations. Work to improve riparian habitats. Maintain and evaluate fish ladder at Clover Creek Crossing. Determine extent of Brook Trout distribution and identify potential actions items to reduce or limit expansion. Investigate presence/absence of Bull Trout within the drainage.
Blackstone Reservoir (85 acres)	Redband Trout Sterile Rainbow Trout	Native	General	Maintain wild Redband Trout populations and stock sterile hatchery rainbow Trout if water level agreement is reached with dam operators. Investigate for trophy trout management.
Sheep Creek (including Mary's Creek) (105 miles)	Redband Trout	Native	General	Maintain or improve existing populations of Redband Trout.
West Fork Bruneau River and tributaries (103 miles)	Redband Trout Mountain Whitefish Bull Trout	Native Native	General General	Manage for native Redband Trout and Bull Trout. Work with Nevada Fish and Game to eliminate stocking of trout that would threaten future of Redband Trout. Monitor populations at established sites. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.
Jarbidge River and tributaries (75 miles)	Redband Trout Mountain Whitefish Bull Trout	Native Native	General General	Monitor fish community abundance and size structure periodically. Maintain native salmonid populations. Work with Federal, State, and private landowners to improve riparian habitats. Monitor Bull Trout population and life history. Explore opportunities to increase distribution and abundance.

23. Main Snake River – CJ Strike to Minidoka Dam



Overview

The Snake River from CJ Strike Dam upstream to Minidoka Dam has a total length of 203 miles and provides a diverse range of fish habitats. The total reach consists of nearly 140 miles of free-flowing habitat and 63 miles of reservoir habitat. The reach has 8 hydroelectric projects that segment the river into varying lengths of free-flowing and reservoir habitats. Large volumes of spring flow are discharged into the Snake River from the Snake River Plain aquifer. An approximate average discharge of 5,900 cfs (4.3 million acre-feet/year) flows from these springs along the north bank of the Snake River. These springs include 11 of the 65 springs in the United States with an average discharge exceeding 100 cubic feet per second. Water quality from these springs has been excellent, but continuing development of the springs for commercial aquaculture and increasing levels of nutrients in the ground water is lowering water quality in the springs and river. Water upstream of Milner Dam is completely diverted from the Snake River at the dam, except under three specific conditions or water rights related to water calls below Hells Canyon Dam for Salmon/Steelhead flow augmentation, hydropower production water rights, or for flood control. Downstream of Milner Dam essentially reestablishes flows in the Snake River due to the spring outputs in the reach. Water management is very complex within this stretch of the Snake River.

Trout habitat in the main Snake River is currently poor to fair throughout most of the free-flowing reaches between CJ Strike Reservoir and Minidoka Dam. Trout habitat is best in CJ Strike Reservoir and between Bliss Dam and Shoshone Falls, where spring water inputs enter the Snake River. Other native species such as Shoshone Sculpin, Mountain Whitefish, and Leopard Dace can also be found in these spring water habitats. Land and water development near these aquifer springs has reduced available trout spawning habitat in this segment of the Snake River. Additional water quality problems are occurring in the river and tributaries from excessive nutrients and sediments from agricultural and municipal discharges in the surface waters. Due to these discharges, depleted night-time oxygen levels have been a problem along with excessive aquatic vegetation within portions of the river.

Trophy size trout are caught in portions of the Snake River, such as the tailwaters of Minidoka Dam, Upper Salmon Falls Dam and Lower Salmon Dam. Species of trout present are Rainbow Trout, Brown Trout, Cutthroat Trout, and hybrid trout. The Cutthroat Trout and hybrid trout are found mainly in the area between Milner and Twin Falls dams, an area seriously impacted by low flows during the irrigation season. Many of these hybrid trout attain large sizes, some reaching weights exceeding six pounds. Vinyard Creek, an aquifer spring entering the Snake River on the north side just upstream of Twin Falls, was historically a spawning area for Yellowstone Cutthroat Trout and hybrid trout; however, habitat loss (decreased spring discharge) has resulted in their extirpation from this drainage.

Many of the minor tributary streams entering the Snake River also contain good trout habitat and support good populations of wild trout, primarily naturalized Rainbow Trout and native inland Redband Trout. Some of the streams, especially the springs, are utilized for spawning by trout from the Snake River.

Within this management area, the main Snake River contains seven reservoirs which are suitable in varying degrees for trout: CJ Strike, Bliss, Lower and Upper Salmon Falls, Shoshone Falls, Twin Falls, and Milner. All of the dams within the reach but Minidoka Dam were constructed by IPC and function as hydroelectric projects. During extreme high or low water years in the Snake River, flushing or hydroelectric load following may reduce reservoir productivity and cause entrainment or emigration of stocked fish from Snake River reservoirs. Many of the smaller lakes, ponds and reservoirs close to the Snake River are also highly suitable for Rainbow Trout. Several of the Snake River hydroelectric projects operated by IPC have been issued federal licenses including CJ Strike, Upper Salmon Falls, Lower Salmon Falls, and Bliss. An annual stocking program of sterile, catchable-size Rainbow Trout was initiated in 2007 as part of the FERC required mitigation. The program provides for both spring and fall stockings at CJ Strike Reservoir, Centennial Park (near Twin Falls), Upper Salmon Falls Reservoir, Lower Salmon Falls Reservoir, Bliss Reservoir, and downstream of Bliss Dam near King Hill. The BOR-managed Minidoka Dam hydroelectric facility license also has FERC required mitigation to maintain an annual stocking program. Sterile trout are utilized to avoid potential impacts to wild trout.

White Sturgeon are found in varying numbers in the Snake River from Shoshone Falls downstream to CJ Strike Dam. Although sturgeon abundance is largely supported through hatchery supplementation within much of this reach, the Department will continue to support management practices to reestablish or improve natural recruitment. The river segment between CJ Strike Dam and Bliss Dam (i.e., “Bliss Reach”) contains one of only two naturally reproducing White Sturgeon populations remaining in the Snake River. Angler interest in this species is high and White Sturgeon are regarded as exceptionally desirable, even though there is no harvest allowed. As part of the licenses issued to operate hydroelectric projects in this reach of the Snake River, IPC developed a Snake River White Sturgeon Conservation Plan (WSCP). The WSCP was developed in coordination with the Department and other state fish management agencies. The WSCP requires IPC to monitor abundance of White Sturgeon populations in this section of the river and to evaluate methods of improving survival and reproductive success (IPC 2015). The WSCP is in close alignment with the Department’s White Sturgeon Management Plan (IDFG 2024a).

During late July 2022, approximately 30 large sturgeon carcasses were observed over a three-week period in the Snake River arm of CJ Strike Reservoir that coincided with environmental conditions that can be lethal to White Sturgeon. High angler catch rates of White Sturgeon were also reported at the time and the Department implemented a temporary fishery closure that lasted through September 2022, when water quality improved. A study was implemented in 2023 to evaluate the effects of angling on sturgeon in relation to late-summer summer water quality conditions. Results will inform an adaptive approach to managing this fishery during periods of environmental stress.

Warmwater fisheries are available in numerous reservoirs, the main Snake River, and minor tributaries, but a great demand exists for more waters of this type in the populated portions of the drainage. Major warmwater species present in the Snake River and surrounding waters are Black and White Crappie, Largemouth and Smallmouth Bass, Bluegill, Brown Bullhead, Channel Catfish, and Yellow Perch. CJ Strike at times provides high-yield fisheries for crappies and Yellow Perch as well as a consistent high-quality bass fishery, primarily for Smallmouth Bass. Milner Reservoir offers a Smallmouth Bass fishery that fluctuates in productivity based on water management within the river. Channel Catfish were stocked almost annually in the main Snake River in this area between 1965 and 1972. Periodic releases have been made in the Snake River and nearby waters since 1972 and self-sustaining populations have become established between Bliss Dam and CJ Strike Dam. Currently, IPC stocks Channel Catfish annually upstream of Milner Dam. Recent surveys indicate catfish are available in the Milner Reservoir. Robust populations of Largemouth and Smallmouth Bass are found in impoundments on the Snake River, and some waters in the Hagerman area produce good angling for Bluegill.

Avian predation by American White Pelicans and Double-crested cormorants on hatchery-supported fisheries represents a substantial management challenge within this area, especially in small impoundments nearest the Lake Walcott pelican colony. Past research has demonstrated an inverse relationship between the level of predation and the distance from a pelican colony. Management actions to mitigate excessive predation (modified stocking season, night stocking, increased fish size) have not been sufficient to maintain hatchery-supported trout put-and-take fishing opportunities. The Management Plan for the Conservation of American White Pelicans in Idaho 2016-2025 (IDFG 2016) establishes pelican management objectives that may help reduce predation conflicts on public fisheries.

In the fall of 2023, the ISDA identified the presence of Quagga Mussels in the Snake River near Twin Falls, Idaho. This marked the first confirmed Quagga Mussel detection in Idaho and the Columbia River Basin in its entirety. The Department worked collaboratively with ISDA and other state, federal, and local agencies to develop a treatment plan to eradicate the invasive mussels. The treatment utilized chelated copper and was placed in the river from October 3 to October 13, 2023. The treatment affected fish species differently within the treatment area. Largescale Sucker, Northern Pikeminnow, Common Carp, Yellow Perch and White Sturgeon experienced high levels of mortality. Warmwater species such as Largemouth Bass, Bluegill, and Pumpkinseed experienced low levels of mortality. Recreational fishing opportunities currently remains available to anglers within most of the treatment area; however, angling equipment will need to be cleaned before entering the water and at the conclusion of the anglers fishing experience for each trip. Fishery restoration plans are currently being developed but are not likely to begin until late 2025 or in 2026, depending on monitoring efforts and findings conducted by ISDA. Non-game native fish species will recolonize within the reach with upstream movement back into the treatment areas, whereas game fish species may need to be translocated back into the reach, as needed.

The Snake River has the greatest potential for increasing angler opportunity of any major water in southern Idaho. Nutrient load following, lack of adequate stream flows (especially during irrigation season), deteriorating water quality, and loss of spawning areas and connectivity appear to be the factors most significantly affecting fish populations in the Snake River.

Objectives and Strategies

1. Objective: Improve water quality and quantity in the Snake River and tributaries for fish spawning and rearing and for recreational uses.

   Strategy: Provide technical assistance to Water Advisory Groups to reduce sediments and nutrient inputs.

   Strategy: Work with regulatory agencies, BOR, IPC, and irrigation companies to improve water management in the Snake River to enhance flows and improve water quality for fish species, such as White Sturgeon.

   Strategy: Continue to work with the Environmental Resource Technical Working Group to define conditions under which water can be diverted for aquifer recharge while not impacting fish or riparian resources.

2. Objective: Enhance or maintain hatchery-supported and wild/natural fisheries within reach impoundments.

   Strategy: Work with IPC to understand how improvements or changes in the Rainbow Trout stocking plan, required as part of the federal license for the operation of CJ Strike, Upper Salmon Falls, Lower Salmon Falls, and Bliss hydroelectric projects, can be or should be made during the upcoming FERC relicensing process.

Strategy: Anticipate and prepare for FERC relicensing for CJ Strike, Bliss, Lower Salmon Falls, and Upper Salmon Falls hydroelectric projects.

Strategy: Conduct surveys and inventories to aid analysis of hydroelectric project effects.

Strategy: Analyze potential project-specific effects and apply the mitigation hierarchy to recommend measures to offset negative effects throughout a projects' life cycle.

3. Objective: Preserve, restore, and enhance populations of White Sturgeon capable of providing sport fishing opportunities.

   Strategy: Implement the Department's White Sturgeon Management Plan (IDFG 2024a).

   Strategy: Support fisheries, water management practices and high flow events (>17,000 cfs) during sturgeon spawning to improve natural recruitment in the CJ Strike Dam to Bliss Dam reach.

   Strategy: Support management practices to reestablish or improve natural recruitment in all other reaches.

4. Objective: Maintain existing and recover lost spring habitat along the Snake River in the Snake River aquifer area for Shoshone Sculpin and Redband Trout spawning and rearing habitat.

   Strategy: Continue efforts to preserve undeveloped natural springs with significant fishery values.

   Strategy: Provide technical assistance to IDWR regarding water right applications that may impact aquifer levels or spring habitats.

5. Objective: Increase opportunity for warmwater and coldwater fishing to meet increased demand.

   Strategy: Enhance fishing access to Hagerman Wildlife Management Area (WMA) fishing ponds including improved signage, trails, addition of fishing docks, and aquatic vegetation control. Evaluate aquatic vegetation loads on high use fishing ponds within the management area. Prioritize control needs and evaluate short and long-term control measures.

6. Objective: Improve fishing in ponds along the Interstate in the Burley/Rupert area.

   Strategy: Work with local officials and the public to reduce or suppress Common Carp in the ponds.

   Strategy: Introduce and develop warmwater fisheries to mitigate poor performing hatchery-supported Rainbow Trout releases.

7. Objective: Provide a diversity of Largemouth and Smallmouth Bass fishing experiences within the river and mainstem impoundments.

Strategy: Continue placing artificial reef habitat in CJ Strike Reservoir in cooperation with IPC and interested angler groups.

Strategy: Consider riparian/nearshore habitat protection when providing technical assistance for permitting agencies.

Strategy: Assess age structure, growth, condition, as well as angler use and exploitation of Largemouth and Smallmouth Bass.

Strategy: Periodically evaluate regulation alternatives designed to increase catch ratesfor larger bass in C. J. Strike Reservoir, Lower Salmon Dam Reservoir, Twin Falls Reservoir, and Milner Reservoir as well as reaches of the Snake River. Gauge public opinion for alternatives.

8. Objective: Document and understand avian predation throughout the region.

Strategy: Monitor avian predation effects to wild and hatchery-supported fisheries. Implement management actions and objectives outlined in the White Pelican Management Plan.

9. Objective: Restore fisheries within the Quagga treatment areas from Centennial Park upstream to Twin Falls Dam.

Strategy: Monitor recolonization of non-game native fish species within the Quagga Mussel treatment area.

Strategy: Translocate White Sturgeon and, if necessary, other appropriate game fish species from adjacent populations or resulting from salvage operations back into the treatment area at the conclusion of treatment discussions.

Drainage: Snake River from CJ Strike to Minidoka Dam				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
CJ Strike Reservoir (6,760 acres)	Largemouth Bass Smallmouth Bass Channel Catfish White Crappie Black Crappie Panfish Rainbow Trout Mountain Whitefish Walleye White Sturgeon	Wild/natural Wild/natural Native Incompatible Native	Quality General General Conservation	Conduct additional studies to better understand panfish population characteristics, recruitment patterns, and angler harvest. Add warmwater fish habitat structures. Collaborate with Idaho Power to increase hatchery catchable trout stocking and conduct comprehensive creel surveys. Supplement Idaho Power stocking efforts of Rainbow Trout, as needed. Monitor bass exploitation and size structure in relation to regulation changes. Closed to harvest. Catch-and-release, only. Monitor status of sturgeon population and mortality during periods of environmental or biological stress Implement White Sturgeon Management Plan.
Crane Falls Lake (90 acres)	Largemouth Bass Panfish Rainbow Trout	Wild/natural Wild/natural Hatchery-supported	Trophy General	Monitor bass and panfish abundance and size structure. Maintain suitable alkalinity levels by pumping the lake down as needed. Add warmwater fish habitat structures and improve riparian cover. Periodically evaluate angler use and exploitation.
Cove Arm Reservoir (75 acres)	Largemouth Bass Panfish Channel Catfish	Wild/natural	General	Periodically monitor species composition and size structure. Add warmwater fish habitat structures.
Snake River from Loveridge Bridge to Bliss Dam (50 miles)	White Sturgeon Rainbow Trout Smallmouth Bass Largemouth Bass Panfish Channel Catfish	Native Hatchery-supported Wild/natural Wild/natural	Conservation General General Yield	Closed to harvest. Catch-and-release, only. Emphasize high quality White Sturgeon fishery and habitat protection. Limit fishing mortality to protect core spawning population. Seek improvements to water quality and secure spawning flows on four year recurrence interval to maintain recruitment. Implement the White Sturgeon Management Plan. Work with collaborators to evaluate FERC required Rainbow Trout stocking program.
Bruneau Sand Dunes lakes (100 acres)	Largemouth Bass Bluegill	Wild/natural Wild/natural	Trophy Yield	Evaluate trophy bass rule and adjust as needed to maintain trophy fishery. Cooperate with State Parks in promoting fishery. Maintain water levels with pumping program. Monitor and control carp populations.
Blair Trail Diversion Reservoir (15 acres)	Rainbow Trout Panfish	Hatchery-supported Wild/natural	General Yield	Evaluate angler use and harvest periodically. Implement periodic fish community monitoring.

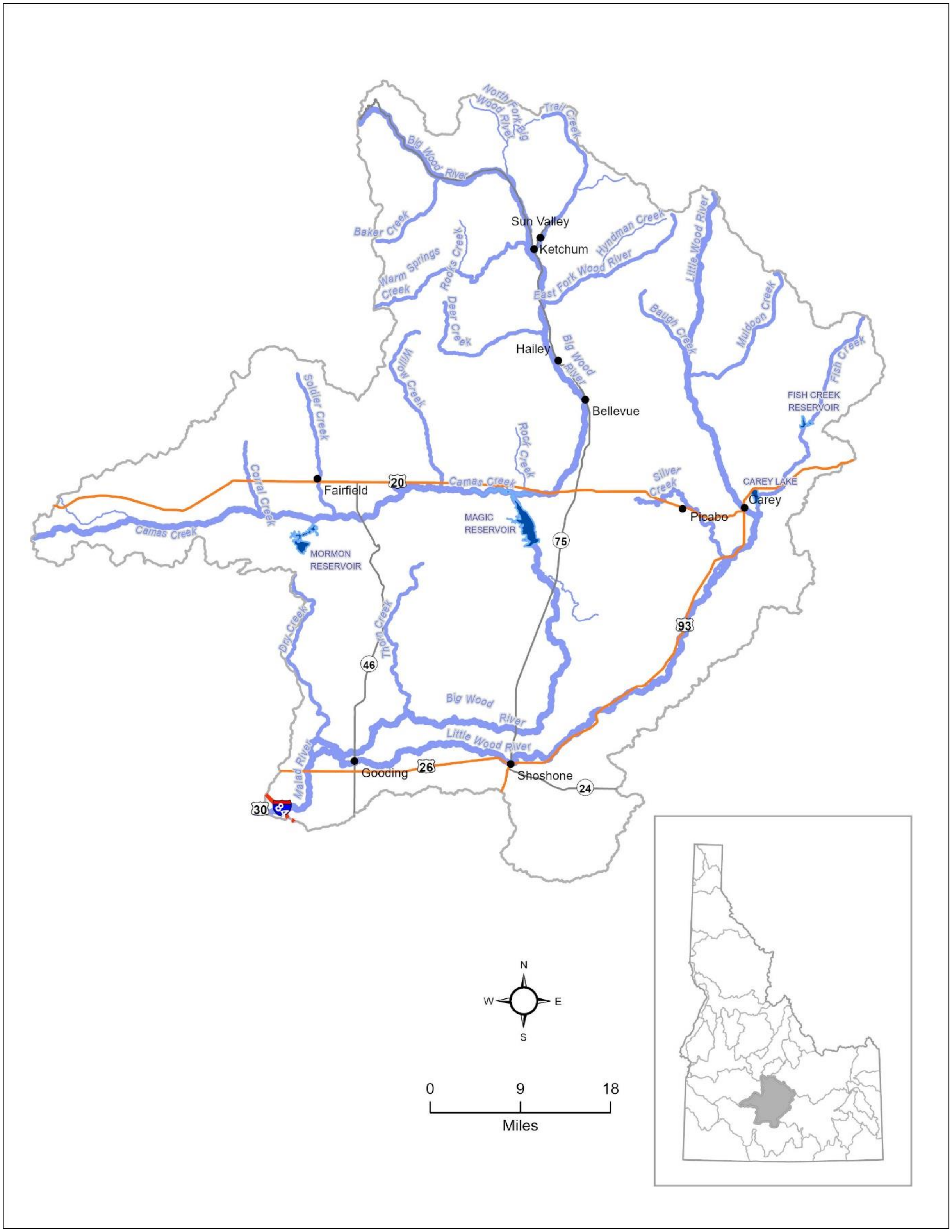
Morrow Reservoir (50 acres)	Largemouth Bass Panfish	Wild/natural	General	Pursue formal access from private landowner prior to developing warmwater fishery.
Pioneer (Clover Creek) Reservoir (230 acres)	Largemouth Bass Panfish	Wild/natural	General	Implement periodic fish community monitoring.
Bliss Reservoir (5 miles/300 acres)	White Sturgeon Rainbow Trout Largemouth Bass Smallmouth Bass Channel Catfish	Hatchery-supported Wild/natural	Quality General	Implement the White Sturgeon Management Plan. Implement periodic fish community monitoring.
Backwaters of Bliss Pool to Lower Salmon Falls Dam (8 miles)	White Sturgeon Mountain Whitefish Rainbow Trout Brown Trout Channel Catfish Smallmouth Bass Largemouth Bass Panfish	Hatchery-supported Native Wild/natural	Quality General General	Implement the White Sturgeon Management Plan. Cooperate with IPC in the Lower Malad River to evaluate the use of fish passage structures at the Malad hydroelectric (FERC required). Determine passage effectiveness to enhance fluvial and Malad River resident Rainbow Trout populations.
Lower Salmon Falls Reservoir (7 miles/870 acres)	White Sturgeon Largemouth Bass Smallmouth Bass Channel Catfish Panfish Rainbow Trout	Hatchery-supported Wild/natural Wild/natural Hatchery-supported	Quality Quality General General	Implement the White Sturgeon Management Plan. Evaluate current bass populations to determine if Largemouth and Smallmouth Bass should be managed under different rules. Continue annual Rainbow Trout stockings in the Bell Rapids area.
Upper Salmon Falls Reservoir (5 miles/810 acres)	White Sturgeon Rainbow Trout Largemouth Bass Smallmouth Bass Channel Catfish	Native Wild/natural	Quality General	Implement the White Sturgeon Management Plan. Evaluate angler use and harvest periodically.
Backwaters of Upper Salmon Falls Reservoir to Shoshone Falls, also flowing water between upper and lower Salmon Falls dams (30.4 miles)	White Sturgeon Rainbow Trout Brown Trout Largemouth Bass Smallmouth Bass Panfish	Hatchery-supported Wild/natural	Quality General	Implement the White Sturgeon Management Plan. Translocate White Sturgeon back into the reach between Centennial Park and Pillar falls following Quagga Mussel treatments implemented by ISDA. Maintain Dolman Rapids as large-size trout water. Protect existing trout habitat. Monitor fish populations within the Quagga Mussel treatment area. Translocate sportfish back into the treatment area as needed. Evaluate angler use and harvest periodically.
Billingsley Creek from mouth to Tupper Grade Crossing (5.5 miles)	Rainbow Trout Brown Trout	Hatchery-supported	General	Evaluate annual stocking of brown trout. Evaluate collaborative options to restore this reach optimizing salmonid habitat. Improve boating access on Billingsley Creek WMA.
Billingsley Creek from Tupper Grade Crossing to headwaters (3.5 miles)	Rainbow Trout Brown Trout	Hatchery-supported	General	Evaluate annual stocking of brown trout. Continue to evaluate angler-use and harvest within the reach. Evaluate collaborative options to restore this reach optimizing salmonid habitat. Fly fishing rule currently required as condition of free public access.

Riley Creek from headwaters to mouth (3 miles)	Rainbow Trout Largemouth Bass Panfish Rainbow Trout	Wild/natural Hatchery-supported	General General	Manage wild trout populations between state and national hatcheries with maximum harvest to reduce disease potentials at hatchery. Manage other areas in conjunction with other WMA waters.
Deep Creek, mouth to Twin Falls Highline Canal (20 miles)	Redband Trout Rainbow Trout	Native Wild/natural	General	Maintain satisfactory in-stream flow.
Mud Creek (8 miles)	Redband Trout Rainbow Trout	Native Wild/natural	General	Maintain adequate minimum in-stream flows.
Cedar Draw Creek from mouth to headwaters (14 miles)	Redband Trout Rainbow Trout Brown Trout	Native Wild/natural	General General	Continue assisting state, federal, and private parties in the clean water project on Cedar Draw Creek. Maintain adequate minimum in-stream flows and other environmental protection at hydro sites and fish hatcheries. Evaluate the success of the developed off-channel ponds to produce Largemouth Bass and Bluegill as source to supplement ponds within this management area as well as others.
All lakes, ponds, and streams on the Hagerman Wildlife Management Area, except Riley Creek (65 acres)	Rainbow Trout Largemouth Bass Bluegill Channel Catfish	Hatchery-supported Wild/natural	General General	Investigate the feasibility of a dredging operation to improve habitat in cooperation with land management personnel. Improve Bluegill spawning habitat. Evaluate reduced bag and possession limits, if needed after an evaluation of angler use and harvest.
Thousand Springs Nature Conservancy Area/Sand Creek (2 miles)	Redband Trout Rainbow Trout	Native Wild/natural	General General	Preserve unique aesthetic qualities of area. Manage for native and wild/natural trout and preserve Shoshone Sculpin.
Box Canyon Springs (1.2 miles)	Redband Trout Rainbow Trout	Native Wild/natural	General General	Preserve unique aesthetic qualities of stream and fish species. Maintain adequate in-stream flow for aquatic life and riparian habitat. Work with Idaho Parks and Recreation to develop low impact public use opportunities. Manage for native and wild/natural trout and to preserve Shoshone Sculpin.
Banbury Springs (0.2 miles)	Redband Trout Rainbow Trout	Native Wild/natural	General General	Preserve unique aesthetic qualities of area and oppose development, which would adversely impact area. Manage for native and wild/natural trout and to preserve Shoshone sculpin. Maintain adequate in-stream flow in all stream channels.
All other aquifer spring in Gooding County (10 miles)	Redband Trout Rainbow Trout	Native Wild/natural	General General	Manage under general management strategy. Preserve aquatic habitat quality of undeveloped aquifer springs.
Devil's Corral Springs (1 mile)	Rainbow Trout	Wild/natural	General	Preserve aquatic habitat quality of springs and spawning and rearing access for the fluvial wild/natural population.
Vineyard Creek (0.5 miles)	Cutthroat Trout Rainbow Trout Hybrid Trout	Native Wild/natural	General General	Determine whether the habitat is suitable for reintroduction of native Cutthroat Trout. Preserve aquatic habitat quality and spawning and rearing access of area.
All other aquifer springs in Jerome County (0.2 miles)	Rainbow Trout	Wild/natural	General	Maintain or improve water quality and spawning and rearing access, where and when feasible.
Niagara Springs Wildlife Management Area ponds (8 acres)	Rainbow Trout	Wild/natural	General	Work to optimize existing pond habitat and make appropriate enhancements.
Crystal Lake (8 acres)	Rainbow Trout	Hatchery-supported		Evaluate angler use and harvest periodically.

Filer Ponds (4 acres)	Rainbow Trout Largemouth Bass Panfish	Hatchery-supported Wild/natural		Support access requirement for kids' pond. Stock regularly with hatchery Rainbow Trout. Monitor the ponds warm water fish community and evaluate angler use and harvest periodically.
Rock Creek from mouth to headwaters (45 miles)	Redband Trout Rainbow Trout Brook Trout Rainbow Trout Brown Trout	Native Wild/natural Hatchery-supported	General General General	Work with land management agencies to improve habitat for natural reproducing populations. Continue cooperation with local and state agencies to continue Rock Creek rural clean water projects. Assure adequate minimum in-stream flows and other environmental protection at hydropower sites. Work to improve fish passage Continue stocking hatchery rainbow and brown trout at high use sites. Coordinate Rainbow Trout stocking with the College of Southern Idaho Hatchery. Evaluate return rates of stocked hatchery trout, alter hatchery requests accordingly.
Shoshone Falls Reservoir to Twin Falls Dam (2 miles/125 acres)	Rainbow Trout Smallmouth Bass Panfish	Wild/natural	General	Monitor fish populations within the Quagga Mussel treatment area. Translocate sportfish back into the treatment area as needed. Evaluate angler use and harvest periodically.
Dierkes Lake (100 acres)	Rainbow Trout Largemouth Bass Smallmouth Bass Panfish	Hatchery-supported Wild/natural	General General Yield	Continue stocking with catchable Rainbow Trout. Evaluate angler use and harvest periodically. Work to improve Largemouth Bass and panfish population size structure. Monitor and evaluate current regulations and make changes if warranted. Monitor impacts of illegal stocking of aquarium species. Consider renovating fishery if warranted.
Twin Falls Reservoir (1 mile/96 acres)	Cutthroat Trout Rainbow Trout Smallmouth Bass	Native Wild/natural	General General	Emphasize protection of native Cutthroat Trout and Rainbow Trout x Cutthroat Trout hybrid populations. Manage as a unit with reach upstream to Murtaugh Bridge.
Backwaters of Twin Falls Reservoir to Milner Dam (20 miles)	Cutthroat Trout Hybrid Trout Rainbow Trout Smallmouth Bass	Native Wild/natural	General General	Emphasize maintenance of resident trout fishery. Evaluate potential for improved trout management with special regulations. Evaluate potential for spawning in Dry Creek. Work on improving habitat through improved flow management. Evaluate potential for developing Smallmouth Bass fishery. Monitor angler use and harvest within the reach.
Milner Reservoir (including Minidoka Dam spillway) (37 miles/4,350 acres)	Channel Catfish White Sturgeon Rainbow Trout Smallmouth Bass Panfish Brown Bullhead	Hatchery-supported Hatchery-supported Wild/natural	Yield Quality General	Continue stocking of Channel Catfish – promote catfish fishery. Monitor exploitation rates of stocked and carryover Channel catfish. Implement the White Sturgeon Management Plan. Improve warmwater fish habitat by placing cover structures on reservoir bottom. Work with state and federal agencies to increase angler access throughout the reservoir and to optimize water management to benefit resident fisheries. Discourage any reductions in minimum flows through the Minidoka Dam spillway area.

Murtaugh Reservoir (827 acres)	Tiger Muskie Channel Catfish Smallmouth Bass Panfish Brown Bullhead	Hatchery-supported Hatchery-supported Wild/natural	Trophy General General	Evaluate the survival and success of tiger muskie released into the reservoir.
Wilson Lake (515 acres)	Smallmouth Bass Brown Bullhead Panfish	Wild/natural	General	Evaluate warmwater fish transplants and consider additional translocations as needed.
Emerald Lake (40 acres)	Rainbow Trout Largemouth Bass Panfish	Hatchery-supported Wild/natural	General General	Stock with hatchery Rainbow Trout and investigate methods of controlling avian predators impact on the sport fishery. Monitor warmwater bass/panfish fishery. Supplement if warranted.
Ponderosa Pond (Lucky Lake) (25 acres)	Rainbow Trout Largemouth Bass Panfish	Hatchery-supported Wild/natural	General Yield	Stock with hatchery Rainbow Trout. Develop and improve public fishing access at the site. Monitor recently reestablished populations of Largemouth Bass and panfish population. Supplement if warranted.
Freedom Park Pond (1 acre)	Rainbow Trout	Hatchery-supported	General	Periodically evaluate angler use and harvest in pond.
Rupert Gravel Pit Pond (4 acres)	Largemouth Bass Panfish	Wild/natural	General	Periodically monitor warm water fishery.
All other streams in drainage except Salmon Falls, Rock, and Goose creeks and Raft River and north side springs drainages (166 miles)	Redband Trout Cutthroat Trout Rainbow Trout Brown Trout Smallmouth Bass Largemouth Bass Panfish	Native Wild/natural	General General	Provide harvest opportunity while maintaining self-sustaining populations. Work with public and private land managers to protect or improve stream habitat for reproducing populations of trout.

24. Big Wood River Drainage



Overview

The Wood River basin has a drainage area of over 2,990 square miles. Major drainages in the basin are the Big Wood and Little Wood rivers and Camas Creek. For downstream reaches, the Big Wood River is also known as the Malad River. Flows from the Wood River drainage are controlled for irrigation and flood control by four major reservoirs: Magic, Little Wood, Fish Creek, and Mormon. Approximately 144,000 acres are irrigated from reservoir storage and other diversions. Hydroelectric power facilities are currently in operation at Magic Dam, Little Wood River Dam, the confluence of the Big Wood and Little Wood rivers, the Little Wood near Shoshone, Malad River upstream of the Malad George State Park, and the Malad River dams.

The Wood River Basin is home to a variety of native fish species found in varying abundances. These species include Wood River Sculpin, Redband Trout, Mountain Whitefish, Bridgelip Sucker, Largescale Sucker, Utah Chub, Longnose Dace, Speckled Dace, and Redside Shiner. Redband trout are the most abundant fish species in the Wood River Basin and hold the greatest importance for recreational fishing. Recent genetic studies by the Department indicate that Redband Trout in the basin have been isolated for approximately 14,500 years before present, possibly representing a unique and previously undescribed lineage of *O. mykiss* in Idaho (Campbell et al. 2022). Similar patterns of isolation and genetic divergence have been observed in Bridgelip Sucker (Smith 1966) and Mountain Whitefish (Miller 2006). Surprisingly, despite extensive historical hatchery stocking throughout the basin, introgression from non-native hatchery rainbow trout of coastal origin appears limited (Campbell et al. 2022). Recent fisheries surveys indicate that Redband Trout populations are increasing in abundance throughout the basin. Current management strategies, which involve only stocking sterile Rainbow Trout and Cutthroat Trout, will further protect these unique Redband Trout.

This drainage contains some of the most productive trout stream, lake, and reservoir habitat in south central Idaho. Nearly all the major rivers, streams, lakes, reservoirs, and ponds are suitable for trout. Redband Trout are the most important game fish species in the drainage, but the lower Little Wood River and Silver Creek support excellent Brown Trout populations, and portions of the drainage sustain high abundances of Brook Trout. Wild trout populations varying from fair to excellent are found in most of the streams in the drainage. Brown Trout have established wild populations in the Big Wood River and steadily increasing numbers of Brown Trout are now found in Magic Reservoir. Excellent populations of wild trophy Rainbow Trout are found in the Big Wood River between Magic Dam and the Richfield Canal in good water years, and in Silver Creek and its main tributaries. The Big Wood River from Hailey to Ketchum can produce quality Redband Trout. Wild Brown Trout reach trophy size in the lower Big Wood River and Silver Creek. Wild trout populations are supplemented with catchable sterile Rainbow Trout in portions of several heavily fished streams. Loss of habitat complexity resulting from floodplain development, irrigation diversions, grazing practices, and hydropower development has negatively impacted fish populations.

Silver Creek provides a premier blue-ribbon trout fishing opportunity. The fishery is comprised of wild Rainbow Trout and Brown Trout which each offer unique fishing experiences. Each species has supporters within the angling community based on their preferred fishing methods and experiences. The Department has monitored the fisheries for nearly two decades and documented that Brown Trout are gradually displacing Rainbow Trout in the lower reaches of the system. The shift in species composition may directly impact the diversity of fishing experience expected by anglers.

Silver Creek has many challenges including decreased flows, increased water temperatures, and avian predation. The Department is working with public and private partners to evaluate existing flow and habitat conditions and to seek improvements throughout Silver Creek and its tributaries. Also, a predation study was conducted in 2018 and 2019 to estimate the proportion of wild trout consumed by White Pelicans. Results indicated that White Pelicans consumed up to 53% of the wild trout production annually. During the study, the Department was working with Wildlife Services to actively haze pelicans on Silver Creek, suggesting without hazing, predation may have been even higher. It is imperative that the Department continues to work with Wildlife Services to haze Pelicans and find additional ways to reduce avian predation on the wild trout populations. The Department will continue monitoring the fishery and exploring options to restore habitat to make the wild/natural trout populations more resilient to these challenges.

The Big Wood River and Silver Creek have both maintained immense popularity with anglers since the settlement of the Big Wood River Valley. Past creel surveys in both fisheries have identified that angler effort in these two waterbodies is quite high compared to other fisheries in the region. As a result of this level of use, public concern over issues of over harvest and angler crowding has been voiced consistently since the early 1980s. Past management actions to address public concerns have mostly come in the form of adopting restrictive harvest regulations in hopes of producing quality fishing opportunity on each waterbody. Instead, a measurable decline in fishery quality has been observed in this fishery since restrictive regulations were implemented in 1990. To address this decline, contemporary creel and population surveys are underway to develop a better understanding of current angler use, harvest rates, angler opinion, and population dynamics in the Big Wood River. These surveys will inform the need to readdress fishing rules and regulations in the Big Wood River system and help further the goal to maintain a quality trout fishery.

Reservoir trout fisheries are largely dependent on annual plantings of hatchery fish, although Magic and Little Wood reservoirs do contain some wild trout. These reservoirs are very productive allowing phenomenal trout growth and attainment of trophy sizes. Trout fisheries in the larger reservoirs are normally maintained by fingerling planting but receive catchable plants following droughts or heavy drawdown periods. In some other ponds and reservoirs, drought conditions have exacerbated aquatic plant growth, which leads to low dissolved oxygen as plants decay in the fall and winter. Without long-term drought relief, vegetation control will likely be needed to maximize access and enhance winter survival of hatchery trout. Additionally, drought conditions have impacted water quality and quantity in mid-sized reservoirs such as Thorn Creek and Mormon reservoirs. These reservoirs are closely monitored to determine if fall fingerling plants are appropriate in low water years.

Warmwater game fish opportunity can also be found in the waters of the Wood River drainage. Smallmouth Bass can be found in the lower portions of the drainages of the Big Wood, Little Wood, and Malad rivers. Largemouth Bass and Bluegill populations can be found in Dog Creek Reservoir and Carey Lake. Yellow Perch also provide angling opportunity and a good forage base for trout growth in Magic and Mormon reservoirs. Tiger muskie and Channel Catfish are periodically stocked in Dog Creek Reservoir. Evaluations to determine the success of tiger muskie outplants are currently underway and will guide future management regarding releases in the reservoir. Also, additional warmwater fisheries may be developed in suitable waterbodies that continue to be challenged with reduced flows and warmer water temperatures. Mid-sized reservoirs that historically produced quality Rainbow Trout may become suitable for these types of species.

There are 16 HMLs comprising approximately 80 acres that support fish in these major drainages. These lakes are all relatively productive and most of them support high quality Rainbow Trout and Cutthroat Trout angling. The lakes are normally stocked by aircraft every third year according to statewide management principles (High Mountain Lake Management). Arctic Grayling have been stocked in one alpine lake in the drainage and have done very well. Baker Lake, one of the more popular HMLs, is a relatively easy hike that is close to the Big Wood River Valley and receives a fair amount of angler use. Historically, Baker Lake was managed to provide a diversity of species in the fishery. Past stocking events have included Golden Trout and Cutthroat Trout. Brown Trout have been surveyed in Baker Lake, and it is unclear how they originated in the system. Recent surveys indicate that Brown Trout may be reducing survival of the other species stocked in the lake, which is resulting in reduced diversity. Options such as using a chemical treatment should be explored to remove Brown Trout from the lake and to restore diverse angling opportunity.

Objectives and Strategies

1. Objective: Preserve high quality stream habitats and improve degraded stream habitats in the Big Wood, Little Wood, and Silver Creek drainages.

   Strategy: Work closely with county, state, and federal agencies to prevent channel and riparian degradation and development in natural flood plains. Discourage and reduce the loss of large wood debris in the Big Wood River.

   Strategy: Provide technical assistance to IDWR regarding new water right applications and work with state, federal, and local agencies on water efficiency projects that balance the benefits of in-stream flows and aquifer recharge.

   Strategy: Work with land management agencies and livestock owners to recommend grazing strategies that allow for the recovery of riparian systems along streams.

   Strategy: Work with land management agencies and private landowners to enhance degraded habitat on Silver Creek mainstem and headwater tributaries

   Strategy: Work with state and federal agencies, irrigation districts and private landowners on preserving wetlands to improve water quality.

   Strategy: Work with BLM and the public on reestablishing native riparian shrubs and trees along the Little Wood River between Silver Creek and Richfield, Idaho to reduce water temperatures during summer months.

   Strategy: Work with partners to enhance Big Wood River trout habitat immediately downstream of Magic Dam (tailrace) by investigating ramping rates and sufficient winter flows from reservoir operations.

2. Objective: Improve the return rate of stocked trout and reduce impacts on native trout populations in streams.

   Strategy: Estimate harvest of trout stocked in streams and adjust stocking to maximize returns. Consider discontinuing stocking at sites with consistently low returns.

   Strategy: Seek opportunities to develop community fishing ponds to provide convenient fishing experiences while optimizing the use of hatchery trout.

   Strategy: Continue stocking only sterile Rainbow Trout or Cutthroat Trout in HML to minimize the risks associated with introgression with native Redband Trout.

3. Objective: Improve reservoir fishing opportunity.

   Strategy: Provide liberal harvest opportunity for warmwater and coolwater species and stocked trout.

   Strategy: Where feasible, work with partners to control aquatic vegetation to maximize access and enhance overwinter survival in pond and reservoir fisheries.

   Strategy: Seek minimum pools in reservoir fisheries where feasible and encourage appropriate water conservation strategies.

4. Objective: Provide fishing opportunities that satisfies different angler types within the drainage.

   Strategy: Evaluate whether regulation changes can be made to increase overall angler satisfaction and reduce regulation complexity. Establish an angler working group to help draft rule proposals that are biologically meaningful, reduce complexity, and increase angler satisfaction.

   Strategy: Explore the potential of providing year-round fishing opportunities when biologically feasible.

5. Objective: Document and understand avian predation throughout the region.

   Strategy: Where feasible, minimize avian predation in areas where predation is suspected to impact native or important sportfish populations. Prioritize hazing or control actions in heavy predation areas where avian predators and anglers compete or where predation results in substantial fish population impacts.

6. Objective: Maintain and enhance native fish populations in the Big Wood River drainage.

   Strategy: Consider Brook Trout suppression techniques (e.g., chemical treatments and use of YY Brook Trout) in headwater streams to reduce resource competition.

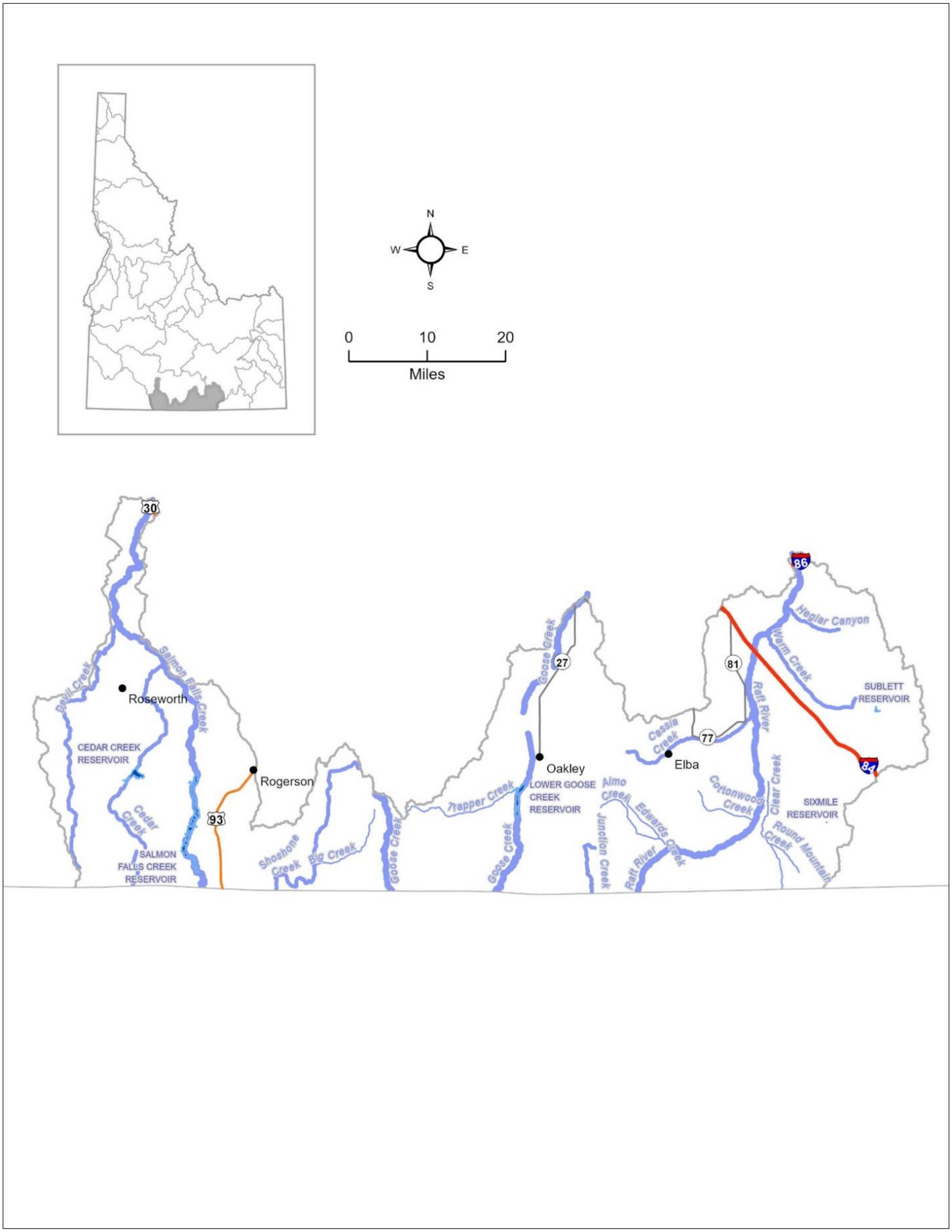
   Strategy: Continue to collect and analyze genetic material from native fish populations to help inform habitat and fish passage projects.

Drainage: Big Wood River				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
Big Wood (Malad) River from mouth to I-84 Bridge (3 miles)	Rainbow Trout Smallmouth Bass	Wild/natural	General	Maintain fluvial trout populations. Evaluate population impacts of increased fish passage at hydroelectric facilities.
Big Wood River from I-84 Bridge upstream to Magic Dam (70 miles)	Rainbow Trout Brown Trout Smallmouth Bass	Wild/natural Incompatible	General	Work to maintain minimum flow for fish survival and to prevent entrainment loss. Maintain Smallmouth Bass fishery below confluence of the Little Wood River.
Big Wood River from Magic Reservoir upstream to Glendale diversion (12 miles)	Rainbow Trout Brown Trout Brook Trout	Wild/natural	General	Evaluate angler use, satisfaction, and harvest periodically. Inform and support tributary restoration and reconnection efforts. Consider providing year-round opportunity within the reach.
Big Wood River from Glendale diversion upstream to Mile 122 Bridge on Highway 75 (15 miles)	Redband Trout Mountain Whitefish Rainbow Trout Brown Trout Brook Trout	Native Wild/natural Incompatible	Conservation Quality	Evaluate angler use, satisfaction, and harvest periodically. Monitor wild trout abundance and size structure every three years. Improve habitat and river stability using native woody material where possible. Promote the use of natural stream treatments to replace areas of rip rap. Work with Blaine County to minimize and mitigate for floodplain development. Inform and support tributary restoration and reconnection efforts, when appropriate.
Big Wood River from mouth of North Fork to headwaters (23 miles)	Redband Trout Mountain Whitefish Rainbow Trout Brook Trout	Native Hatchery-supported Incompatible	Conservation General	Evaluate angler use, satisfaction, and harvest periodically. Monitor wild trout abundance and size structure every three years. Continue stocking catchable sterile Rainbow Trout near camping access areas. Evaluate methods to control Brook Trout numbers.
Trail Creek mouth to Wilson Creek (10 miles)	Redband Trout Mountain Whitefish Rainbow Trout Brook Trout	Native Hatchery-supported Incompatible	Conservation General	Implement periodic fish community monitoring. Work to provide better fish passage so that migratory trout can utilize this tributary as spawning and rearing habitat. Continue stocking catchable sterile Rainbow Trout.
Warm Springs Creek from mouth to Rooks Creek campground (13 miles)	Redband Trout Mountain Whitefish Rainbow Trout Brook Trout	Native Hatchery-supported Incompatible	Conservation General	Implement periodic fish community monitoring. Evaluate angler use and harvest periodically. Continue stocking catchable sterile Rainbow Trout.
Richfield Canal (12 miles)	Rainbow Trout Smallmouth Bass	Hatchery-supported Incompatible	General	Continue stocking catchable trout in the reach. Evaluate angler use and harvest periodically. Encourage harvest to reduce abundance and reduce predation of trout.
Little Wood River from mouth to Dietrich diversion dam (60 miles)	Rainbow Trout Brown Trout Smallmouth Bass	Hatchery-supported Wild/natural	General General	Stock hatchery Rainbow Trout in potential high use areas to increase opportunity. Work to provide year-round flows and fish passage for this reach. Maintain as Smallmouth Bass fishery. Work to maintain minimum flows to enhance fish survival.

Little Wood River from Dietrich diversion dam to Little Wood Reservoir Dam (35 miles)	Rainbow Trout Brown Trout	Hatchery-supported	General	Fly fishing only, catch-and-release basis as an access stipulation. Monitor fish community and evaluate angler use and harvest periodically. Develop habitat improvement program in conjunction with BLM. Supplement with catchable Rainbow Trout or Brown trout when needed. Above Silver Creek confluence, support irrigation efficiency projects provided results would result in more consistent or year-round streamflow.
Little Wood River from Little Wood Reservoir upstream to headwaters (22 miles)	Redband Trout Mountain Whitefish Rainbow Trout Rainbow Trout Brook Trout	Native Wild/natural Hatchery-supported Incompatible	Conservation General	Monitor abundance and size structure of wild trout populations periodically. Continue stocking program in high use area at campground.
Silver Creek from mouth upstream to Highway 20 Bridge at Milepost 187 (20 miles)	Rainbow Trout Brown Trout	Wild/natural	Quality	Monitor wild trout abundance and size structure every three years. Evaluate angler use and harvest periodically. Work with Federal, State, private landowners and other partners to improve fish and riparian habitats. Work to acquire additional public access. Minimize avian predation impacts upon the resident salmonid population.
Silver Creek and tributaries upstream of Highway 20 Bridge at Milepost 187 Bridge and Sullivan Lake within Nature Conservancy property (8.5 miles)	Rainbow Trout Brown Trout	Wild/natural	Trophy	Monitor wild trout abundance and size structure every three years. Evaluate angler use and harvest periodically. Work with Federal, State, private landowners and other partners to improve fish and riparian habitats. Work cooperatively with the Nature Conservancy to provide high quality fishing experience on their property. Minimize avian predation impacts upon the resident salmonid population.
Stalker Creek and tributaries from public fishing portion of Nature Conservancy property upstream (including tributaries) (10 miles)	Rainbow Trout Brook Trout Brown Trout	Wild/natural	Trophy	Monitor abundance and size structure of wild trout populations. Work with Federal, State, private landowners and other partners to improve fish and riparian habitats. Work cooperatively with the Nature Conservancy to provide high quality fishing experience on their property.
Loving Creek, from Nature Conservancy boundary upstream to headwaters, including Hayspur Hatchery grounds (Butte Creek; 4 miles)	Rainbow Trout Brook Trout Brown Trout	Wild/natural	Trophy	Monitor abundance and size structure of wild trout populations. Work with Federal, State, private landowners and other partners to improve fish and riparian habitats.
Gavers Lagoon (1 acre)	Rainbow Trout	Hatchery-supported		Stock with catchable Rainbow Trout and occasional broodstock culls. Evaluate angler use and harvest periodically.
Grove Creek (5 miles)	Rainbow Trout Brook Trout Brown Trout	Wild/natural	Trophy	Work with Federal, State, private landowners and other partners to improve fish and riparian habitats.
Camas Creek (65 miles)	Rainbow Trout Brown Trout	Wild/natural	General	Investigate potential for fishery development. Improve habitat where feasible to increase carrying capacity.

All other streams in Big Wood River drainage (265 miles)	Redband Trout Mountain Whitefish Rainbow Trout Brook Trout Brown Trout	Native Wild/natural	Conservation General	Implement periodic fish community monitoring. Maintain or improve existing habitat to increase carrying capacity for resident fish and spawning and rearing of migratory fish.
Dog Creek Reservoir (50 acres)	Largemouth Bass Panfish Channel catfish Rainbow Trout Tiger Muskie	Wild/natural Hatchery-supported	General General Trophy	Implement periodic fish community monitoring, angler use, satisfaction, and harvest. Investigate use of water level management to control vegetation and carp reproduction. Supplement with catchable Rainbow Trout for fishery in winter months. Evaluate tiger muskie fishery and continue supplementation only if angler benefits are realized.
Thorn Creek Reservoir (120 acres)	Rainbow Trout	Hatchery-supported	General	Cooperate with BLM to improve carryover of water and fish in low water years. Investigate the potential for developing a warm water fish community.
Magic Reservoir (3,580 acres)	Rainbow Trout Brown Trout Yellow Perch Smallmouth Bass	Hatchery-supported Wild/natural Incompatible	General General Yield	Emphasize Rainbow Trout fishery. Stock high densities of fingerling and catchable Rainbow Trout. Translocate Yellow Perch to reestablish self-sustaining populations after low water years. Consider habitat enhancement projects to improve Yellow Perch spawning habitat.
Mormon Reservoir (1,570 acres)	Rainbow Trout Yellow Perch	Hatchery-supported Wild/natural	General Yield	Implement periodic fish community monitoring. Evaluate stocking strategies to maximize Rainbow Trout return to creel rates. Collaborate with public and private groups to control aquatic vegetation to improve angler access and fish habitat.
Carey Lake (520 acres)	Largemouth Bass Panfish Channel Catfish	Wild/natural Wild/natural	General Yield	Implement periodic fish community monitoring, angler use, satisfaction, and harvest. Cooperate with habitat managers to maintain adequate water volume to prevent winterkill. Consider the introduction of tiger muskie to improve Largemouth Bass and Bluegill size structure and to provide a new fishing opportunity.
Little Wood River Reservoir (520 acres)	Rainbow Trout	Hatchery-supported	General	Maintain fishery with fingerling and catchable Rainbow Trout stocking. Implement periodic fish community monitoring, angler use, satisfaction, and harvest.
Fish Creek Reservoir (350 acres)	Brook Trout Rainbow Trout	Wild/natural Hatchery-supported	General	Consider stocking tiger trout to diversify angling opportunity and to take advantage of the abundant non-game fish biomass within the reservoir.
Lava Lake (20 acres)	Rainbow Trout	Hatchery-supported	General	Work to secure long-term public access.
Baker Lake (10 acres)	Cutthroat Trout Brown Trout	Hatchery-supported	Quality	Evaluate the feasibility of removing Brown Trout from the lake using chemical treatment.
Upper Box Canyon Lake (2 acres)	Brook Trout	Wild/natural	General	Evaluate methods to control Brook Trout numbers.

25. Salmon Falls Creek, Goose Creek, and Raft River Drainages



Overview

There are four major drainages in the arid high desert region south of the Snake River between CJ Strike Reservoir and Minidoka Dam including Raft River, Goose Creek, and Salmon Falls Creek. The three drainages have a combined area of over 6,870 square miles. Three major reservoirs: Lower Goose Creek (Oakley), Salmon Falls Creek, and Cedar Creek (Roseworth); and one minor reservoir, Sublett Reservoir, store water for irrigation and flood control. These reservoirs all support trout fisheries, primarily maintained through stocking, and varying from fair to excellent quality. Also, Sublett Reservoir has wild trout reproduction in tributary streams.

All of these drainages have streams that support good native or wild trout populations. Species found in different portions of the area are Rainbow Trout, Yellowstone Cutthroat Trout, Brown Trout, and Brook Trout. Populations of native Cutthroat Trout are found in the Raft River and Goose Creek drainages. Native Cutthroat Trout populations in some areas have declined as a result of degraded habitat, water diversions, and introduction of non-native species, particularly Rainbow Trout. Programs for maintaining or improving existing Cutthroat Trout populations and restoring remnant populations will be emphasized. Northern Leatherside Chub and Green Sucker are uncommon nongame species which are present in the Goose Creek and Raft River drainages and are of conservation interest. Large portions of streams in the Raft River, Goose Creek, and Salmon Falls Creek drainages have been degraded by overgrazing and other land use practices. Restoration of native or improvement of wild trout populations will require effort to improve habitat quality especially for riparian areas. Beaver ponds furnish much valuable trout habitat on many of the smaller streams of the Raft River and Goose Creek drainages.

Salmon Falls Creek Reservoir was completed in 1912 and until the spring of 1984 was considered a closed system. As a result, it has received plantings of many species of fish through the years. Record snows in the drainage caused the reservoir to fill and spill for the first time in the spring of 1984. Spill also occurred in the spring of 2017 following another record snowpack winter. No evidence has been found to indicate that any fish survived the spill below the reservoir. Game species currently in the reservoir are Rainbow Trout, Brown Trout, Yellow Perch, Black Crappie, Smallmouth Bass, Largemouth Bass, and Walleye. Salmonids are primarily maintained by hatchery stocking. Salmon Falls Creek Reservoir is one of only three Commission-authorized fisheries for Walleye in the state. Salmonids are primarily maintained by hatchery stocking. However, some level of natural recruitment occurs as Brown Trout were last stocked in 1986 in the reservoir. Due to the highly piscivorous nature of Walleye, salmonid stocking has shifted to a greater proportion of catchable-size releases, which are large enough to limit losses through predation. Walleye also prey upon Yellow Perch, nongame species, and Spottail Shiner, which was introduced to supplement the prey base.

The Walleye fishery in Salmon Falls Creek Reservoir is very popular with anglers. Anglers expended 89,046 h of effort, during a creel survey from late-April through early November in 2010, of which 16,000 h were specifically targeting Walleye. During the survey, 1, 097 anglers were interviewed (Stanton et al. 2019). Trophy-size Walleye are occasionally caught in the reservoir with several state record fish being caught since 2010. Survey results from 2023 suggest the reservoir is currently extremely out-of-balance with 92% of the fish sampled being predators (Walleye, Smallmouth Bass, and Rainbow Trout). Under these conditions, prey becomes rare and limits growth, condition, and survival. Walleyes are currently exhibiting reduced individual growth and a growth bottleneck, impacting several year classes of the population, resulting from lack of prey. Salmon Falls Creek Reservoir has a long history of Walleye stocking. In addition, some level of natural production occurs. It is not clear which source of Walleye recruitment has led to the current over-abundance; however, the Department is keenly interested in better understanding the relative contribution of these sources in order to reduce recruitment, reduce Walleye abundance, and better balance predator-prey ratios so as to improve Walleye growth, condition, and fishery quality.

Preliminary, 2023 survey results from Oakley Reservoir, suggests the fisheries community lacks diversity, with only five species being sampled. Walleye were the highest proportion of fish sampled (37%), followed by Utah Sucker (31%), Rainbow Trout (25%), Spottail Shiner (5%), and Yellow Perch (2%). It appears that Walleye may still be resource limited in the reservoir and exhibit slower than average growth for the species. In addition, natural recruitment of Walleye, within the reservoir, appears to be limited with age-2 fish being sampled, which coincides with the 2019 stocking event. Developing a better understanding of the relative contribution of natural recruitment and stocked Walleye, will help us determine appropriate management options to improve growth and balance this fishery as well.

Angling effort varies considerably throughout the drainages. It is relatively high on Roseworth, Sublett, Oakley and Salmon Falls Creek reservoirs, but is relatively low on streams in the Salmon Falls Creek, and Raft River drainages. In contrast, easily accessible streams in the Goose Creek drainage receive higher angler effort.

There are three HMLs which support game fish in the Raft River drainage. These include the two Independence Lakes on Mount Independence near Oakley and Lake Cleveland on Mount Harrison. The Independence Lakes have good Cutthroat Trout and Arctic Grayling populations that result from fry plantings. Lake Cleveland is accessible by road, and the fishery is maintained by catchable Rainbow Trout stockings and fingerling Cutthroat Trout. These lakes are managed according to statewide direction (High Mountain Lake Management).

Objectives and Strategies

1. Objective: Assess Walleye population demographics, sources of recruitment, prey communities, and fisheries characteristics to determine appropriate management options for Walleye in Salmon Falls Creek and Oakley reservoirs.

   Strategy: Continue to sample the entire fish community, at least once every five years, using the standardized lowland lake monitoring protocol for both reservoirs. Conduct fall Walleye index netting on both reservoirs to collect Walleye specific population metrics.

   Strategy: Determine the relative contribution of naturally produced and stocked Walleye to the fishery and spawning stock. Adjust stocking frequency or numbers as needed.

2. Objective: Implement management programs as outlined in the Management Plan for Conservation of Yellowstone Cutthroat Trout in Idaho (IDFG 2007a).

   Strategy: Evaluate trends in Yellowstone Cutthroat Trout populations at designated monitoring locations.

   Strategy: Work with land management agencies and private landowners on reestablishing connectivity in watersheds and enhancing riparian habitats.

   Strategy: Work with land management agencies on improving degraded riparian habitats with the implementation of improved grazing practices.

Strategy: Maintain or improve Yellowstone Cutthroat Trout genetic integrity by eliminating stocking or stocking only sterile Rainbow Trout in Cutthroat Trout drainages.

Strategy: Work with local Watershed Advisory Groups to improve water quality.

Strategy: Expand Yellowstone Cutthroat Trout distribution through translocations of suitable donor stocks into historical habitat.

Strategy: Work with Federal and State agencies, landowners, and irrigation districts by reducing competition (Brook Trout) or hybridization risk (Rainbow Trout) in the Goose and Raft River drainages.

3. Objective: Protect Northern Leatherside Chub populations in Goose Creek and Raft River drainages.

   Strategy: Provide information to land management agencies and public on identification, population status and distribution of Northern Leatherside Chub in the drainages.

   Strategy: Work with local regulatory agencies and landowners to minimize impacts of livestock grazing on riparian areas.

4. Objective: Improve water quality and quantity for fish habitat in lower reaches of streams in these drainages.

   Strategy: Work with regulatory agencies and landowners to identify water efficiencies to benefit both instream flows and recharge, when possible.

   Strategy: Work with regulatory agencies and landowners to reduce sediment and nutrient loads in streams flowing into the Snake River. Develop partnerships to prioritize nonpoint source reduction projects in Snake River tributaries.

5. Objective: Maintain and enhance native fish populations in the Salmon Falls and Goose creek, and the Raft River drainages.

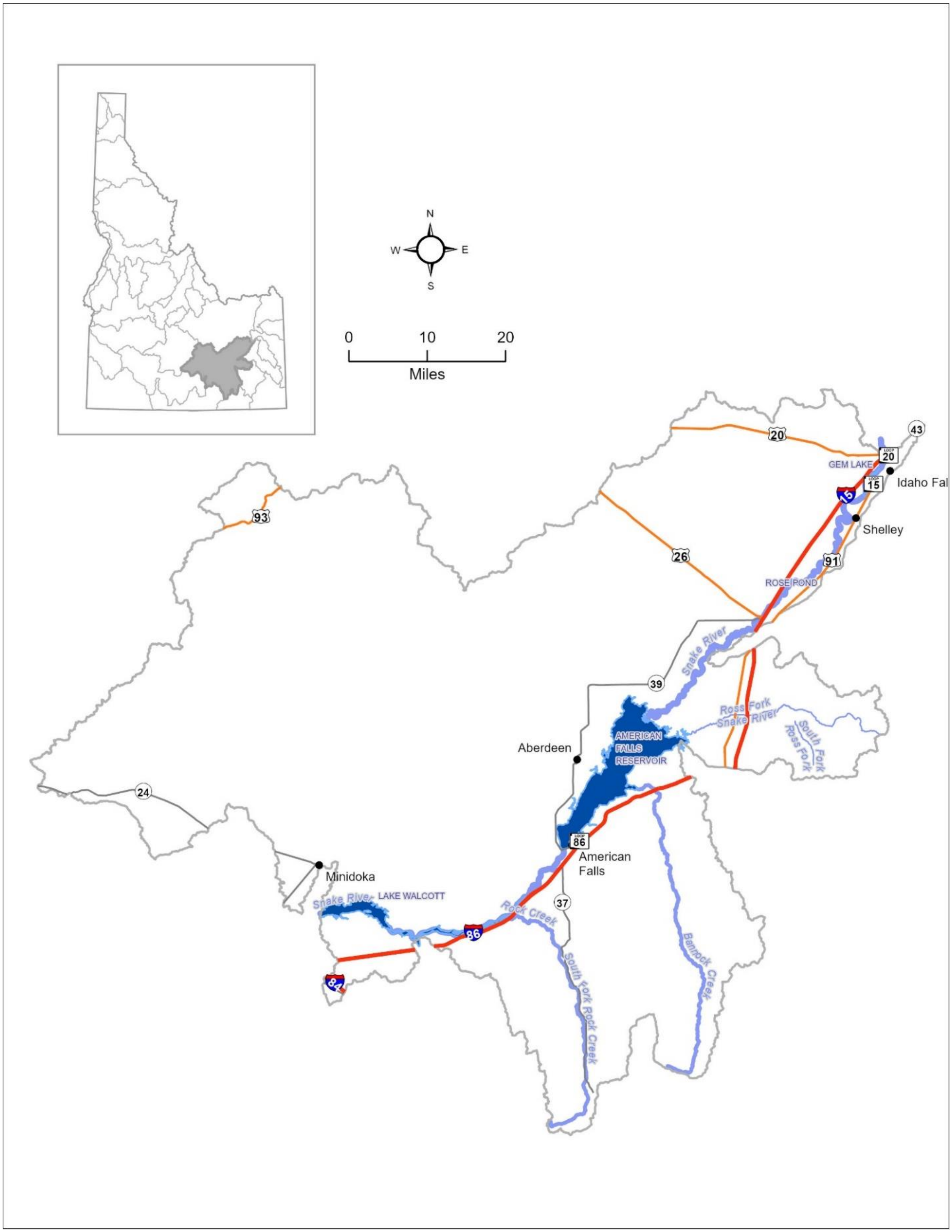
   Strategy: Consider Brook Trout suppression techniques (e.g., chemical treatments and use of YY Brook Trout) in headwater streams to reduce resource competition.

   Strategy: Continue to collect and analyze genetic material from native fish populations to help inform habitat and fish passage projects.

Drainage: Salmon Falls Creek, Goose Creek, Rock Creek, and Raft River				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
Salmon Falls Creek from mouth to Balanced Rock Park (15 miles)	Rainbow Trout Smallmouth Bass	Hatchery-supported Wild/natural	General General	Evaluate angler use and harvest periodically. Stock catchable Rainbow Trout at Balanced Rock Park. Implement liberal rules to allow for increased harvest of Smallmouth Bass.
Salmon Falls Creek from Balanced Rock to Salmon Falls Creek Dam (30 miles)	Rainbow Trout Brook Trout Smallmouth Bass	Wild/natural Wild/natural	General Incompatible	Maintain wild trout fishery. Monitor abundance and size structure of wild trout populations. Implement liberal rules to allow for increased harvest of Smallmouth Bass.
From backwaters of Salmon Falls Creek Reservoir to Nevada border (5 miles)	Redband Trout Rainbow Trout Walleye Smallmouth Bass Brown Trout	Native Hatchery-supported Wild/natural	General General General	Maintain native trout and wild trout fishery. Consider implementing liberal rules to allow for increased harvest of Smallmouth Bass.
Shoshone Creek from Nevada border to headwaters (30 miles)	Redband Trout Rainbow Trout Brown Trout	Native Wild/natural	General General	Work with USFS and BLM to improve habitat through grazing and beaver management. Maintain native trout where present.
Big Creek from mouth to headwaters (15 miles)	Redband Trout Rainbow Trout Brown Trout	Native Wild/natural	General	Work with USFS and BLM to improve habitat through grazing and beaver management. Maintain native trout where present.
All other streams in Salmon Falls Creek drainage (57 miles)	Redband Trout	Native	General	Evaluate need for harvest restrictions to maintain native trout where present.
Salmon Falls Creek Reservoir (2,750 acres)	Walleye Rainbow Trout/Steelhead Yellow Perch Black Crappie Smallmouth Bass	Hatchery-supported Wild/natural	General Yield	Implement periodic fish community monitoring. Evaluate angler use and harvest periodically. Determine relative contribution of naturally reproduced and stocked Walleye to fishery. Supplement Walleye and Rainbow Trout/steelhead populations when necessary. Consider translocations of Yellow Perch or crappies to rebuild the forage base within the reservoir. Consider implementing liberal rules to allow for increased harvest of Smallmouth Bass.
Oakley Reservoir (Goose Creek Reservoir) (1,010 acres)	Walleye Rainbow Trout Yellow Perch	Hatchery-supported Wild/natural	General Yield	Implement periodic fish community monitoring. Evaluate angler use and harvest periodically. Determine relative contribution of naturally reproduced and stocked Walleye to fishery. Supplement Walleye population when necessary.
Goose Creek and tributaries (above Oakley Reservoir	Cutthroat Trout Northern Leatherside Chub Green Sucker Rainbow Trout Brook Trout	Native Wild/natural Incompatible	Conservation General	Management emphasis will be on native Yellowstone Cutthroat Trout and nongame fish with conservation status. The Department should work with BLM, USFS, and private landowners to improve riparian habitat and water quality. Coordinate with Nevada Dept. of Wildlife on cutthroat conservation measures and sampling. Evaluate methods to control Brook Trout abundance.

Roseworth Reservoir (Cedar Creek Reservoir) (870 acres)	Rainbow Trout Brook Trout	Hatchery-supported Wild/natural	General General	Emphasize Rainbow Trout in reservoir. Improve carryover with fall fingerling plants in good water years. Periodically monitor angler use and harvest, alter hatchery requests accordingly.
Raft River and tributaries (192 miles)	Cutthroat Trout Northern Leatherside Chub Green Sucker	Native	Conservation	Management emphasis will be on native Yellowstone Cutthroat Trout and nongame fish with conservation status. The Department should work with BLM, USFS, and private landowners to improve riparian habitat and instream fish habitats. Monitor to determine presence or absence of Northern Leatherside Chub and Green Sucker.

26. Snake River- Minidoka Dam to Confluence of South Fork and Henrys Fork



Overview

The Snake River from Minidoka Dam upstream to the confluence of the Henrys Fork and South Fork Snake rivers encompasses a variety of habitat types. This reach extends approximately 155 miles, of which approximately 20 miles is flooded by American Falls Reservoir. Native fish species found in this reach include : Mountain Whitefish, Yellowstone Cutthroat Trout, Utah Chub, Longnose Dace, Speckled Dace, Redside Shiner, Utah Sucker, Green Sucker, Mountain Sucker, Mottled Sculpin, and Northern Leatherside Chub; and introduced species include: White Sturgeon, Rainbow Trout, Brown Trout, Brook Trout, Common Carp, Brown Bullhead, Channel Catfish, Green Sunfish, Bluegill Sunfish, Smallmouth Bass, Largemouth Bass, and Yellow Perch. Crappie, once present in fishable numbers in American Falls Reservoir, were not reported by anglers or fishery biologists for decades. Crappie were transferred into American Falls Reservoir again in 2021, though severe drawdown of the reservoir likely reduced the effectiveness of this transfer. Because of the impacted nature of this drainage, the abundance of nonnative fish, and the inability to successfully eradicate nonnatives and establish native fish, management priority for this drainage will focus on providing a quality fishing experience for both native and introduced species.

From Minidoka Dam upstream to Eagle Rock, the Smallmouth Bass fishery greatly expanded between the years 2000 and 2006. Bass tournaments centered on the Massacre Rocks boat launch increased from two tournaments in 2000 to 10 in 2006, as bass anglers recognized the increasing opportunity to catch quality size Smallmouth Bass. In 2024, there were 11 bass tournaments in Walcott Reservoir. Boaters are not allowed in 12 of 40 river miles between Lake Walcott Dam and American Falls Dam. Additionally, road access is very limited to this reach. The boat closure is a USFWS rule within the Minidoka National Wildlife Refuge. This rule greatly reduces angler use. In a June 2005 electrofishing survey, of the bass sampled in isolated areas of the reach closed to boats that were at least 7 inches long, 30% were also at least 17 inches long and ranged from 8 to 13 years in age. In the reach above Massacre Rocks State Park, where boating is allowed, no bass 17 inches or larger were sampled. Total annual mortality in the boat-closure reaches was 25%. In reaches where boats are allowed, total annual mortality was 45%. A lowland lake survey will be completed in 2024 to compare Smallmouth Bass size structure and total annual mortality to the previous survey results. A 2006 telemetry study documented that some of the large bass from the boat-closure reach seasonally migrate into areas accessible by boat anglers. Numerous anglers asked the Department to decrease harvest of bass in the Massacre Rock access site to American Falls reach. Their concern was that with increasing fishing effort would lead to a decline in the quality of the bass population. In response to those concerns and the measured harvest rates, a two bass (any size) limit was implemented from Gifford Springs upstream to American Falls Dam in 2008.

The six miles of river from Eagle Rock upstream to American Falls Dam is a popular trout, Smallmouth Bass, and White Sturgeon fishery (IDFG 2023). This reach is noted for quality size trout, many of which are between 16 and 20 inches long. Most trout in this reach are hatchery stocked Rainbow Trout, but a small percent are Brown Trout and native Yellowstone Cutthroat Trout. The abundance and average size of trout is dependent on the amount of water retained in American Falls Reservoir. Tagging studies show that entrainment of fish from the reservoir to the river below increases when pool stage is reduced below 30%. Growth and survival of stocked hatchery trout is better in the reservoir, so when the reservoir is drawn down, the fisheries in the river below and in the reservoir are negatively impacted.

Additionally, weather, reservoir conditions, and dam operations can combine to pass water that is very low in dissolved oxygen from the reservoir to the river below, contributing to increased fish mortality. Minimum allowable dissolved oxygen in water flowing from the reservoir into the river is

3.5 mg/L at all water temperatures. To satisfy water rights for storage, flows below American Falls Dam are commonly reduced to near 350 cfs during the winter. This is 4% of mean annual flow which greatly reduces river width and depth and reduces carrying capacity of this river reach. Flows less than 10% of mean annual flow cause severe degradation to fishery resources by increasing winter mortality or otherwise compelling fish to emigrate from this river reach.

American Falls Reservoir covers 58,078 surface acres and has a usable storage of 1,671,300 acre-feet. This is a popular fishing reservoir, with anglers expending up to 125,000 hours of effort and harvesting 26,000 Rainbow Trout after multiple good water years have allowed for good survival of stocked trout. During consecutive drought years, when the reservoir is drained annually to less than 10% of full pool, catch rate decreases as does fishing effort. Additionally, American Falls hydroelectric project turbines are a known source of fish mortality. American Falls Hydroelectric Project P-2736 is undergoing relicensing, and the new license is anticipated in 2025. IPC and the Department negotiated a revised settlement agreement as part of relicensing that includes the stocking of 24,000 pounds of hatchery Rainbow Trout into the reservoir by IPC, up from 8,000 pounds in the previous license. However, mitigation did not include any other species that are entrained and exposed to turbine mortality. Additional to the stocking through the settlement agreement, American Falls Reservoir is stocked annually with both catchable and fingerling size trout in early May and September. Trout grow 9 to 16-inches or more during the year following stocking. Most trout caught range in weight from 1.5 to 3 pounds and most are of hatchery origin. Use of fingerlings stocked in the reservoir and river above the reservoir were evaluated and found to be successful for developing a river and reservoir fishery. In 2020, a 31.25-inch Rainbow Trout caught here set a new Idaho State catch-and-release record. Several trout tournaments are held annually. In addition, a Smallmouth Bass fishery developed in American Falls Reservoir during the 1995-2000 period. Department electrofishing surveys first documented numerous bass in multiple age classes in 1997. The first bass tournaments were held in 1999 and have been held annually since that time. Yellow Perch have been present in American Falls Reservoir for decades. However, anglers rarely encounter large numbers of harvestable-sized perch. Frequent years of severe drawdown may flush most of the perch from the reservoir. American Falls Reservoir also contains an abundance of nongame fish, primarily Utah Sucker, Common Carp, and Utah Chub. Over 90% of fish caught in gillnets in American Falls Reservoir are nongame fish.

Numerous springs arise on the Fort Hall Indian Reservation in the area known as the Fort Hall Bottoms located near the upper end of American Falls Reservoir and between the Portneuf River on the south, and the Snake River on the north. The springs produce approximately 1,800,000 acre-feet of water annually, more than enough to fill American Falls Reservoir. The two largest of the reservation springs are Clear Creek (7 miles long) and Spring Creek (11 miles long). These are considered high quality spawning and rearing streams and are managed by the SBT.

The Snake River from the backwaters of American Falls Reservoir upstream to Tilden Bridge, a distance of approximately 20 miles, produces quality size trout. The river in this area has limited public access because of private land and the Fort Hall Indian Reservation. The majority of angling occurs from boats, and effort has increased in recent years. Boating access in this area is limited to a small boat ramp at McTucker and the Tilden boat ramp 17 miles upstream. Similar to below American Falls Dam, flows in this reach of river are severely reduced during the winter to satisfy water rights for storage and aquifer recharge, contributing to increased fish mortality.

The Snake River reach from Tilden Bridge upstream to the Gem State Power Dam is 37 river miles long and runs through a mixed cottonwood riparian forest. Significant amounts of water are diverted from the river at numerous points in this reach and entrainment and biological impacts of entrainment and minimum flows are largely unquantified and unknown. During the irrigation season and early fall, river flows vary depending on the amount released from upriver storage reservoirs and on the amount diverted for each canal. More recently, aquifer recharge conducted during winter has added additional variability to flows in this reach. Large numbers of Rainbow Trout are stocked in this reach, and hatchery Rainbow Trout comprise the majority of the catch. However, wild Rainbow Trout, Brown Trout, Cutthroat Trout, White Sturgeon, and Smallmouth Bass also are caught in this reach. Beginning in 2011, White Sturgeon were stocked in this stretch of river to provide a popular recreational fishery. Most White Sturgeon are caught in the river directly downstream from Gem Lake Dam, though they can be found in many of the deepest areas of the river throughout this reach.

Reservoirs and ponds along the Snake River in this area include Springfield Lake, McTucker Ponds, Jensen Grove, Crystal Springs, and Rose Pond. Springfield Lake covers 66 surface acres and is kept full during summer to facilitate water flow into irrigation canals. Due to excessive predation by birds, mainly double-crested cormorants, fish stocking and fishing rules were changed in 1998. At that time, it was no longer practical to stock fingerling and catchable size trout due to avian predation. A decreased number of larger trout (16 to 17 inches long) were stocked for several years in late October when most of the fish-eating birds had migrated south. Rearing fish to 16 inches became too inefficient since hatchery rearing space is limited, thus this strategy was discontinued after 2019. Catchables and fingerling have been used to supplement this fishery and a higher proportion of broodstock are released here when those larger fish are available. At Springfield Lake, fishing mortality has been limited to increase size structure as larger trout may evade bird predation. McTucker Ponds are a series of seven connected small gravel pits and another isolated pond, covering a total of 25 surface acres. These ponds are located near the upper end of American Falls Reservoir on the west side of the Snake River. The ponds are stocked frequently with catchable size trout, and channel catfish. Largemouth Bass and Bluegill have been transferred into these ponds every few years. In the past, these ponds flooded periodically and required chemical renovation to remove non-native nongame species. McTucker Ponds are managed through cooperative agreements between the BOR, Bingham County, and the Department. Rose Pond is located north of Blackfoot and contains Rainbow Trout, Bluegill, and Largemouth Bass. In 1997 it connected with the Snake River and now contains nongame fish. The pond is reduced from over 20 surface acres in summer to less than three shallow acres in winter as the ground water level recedes. Therefore, very few trout survive the winter. Rose Pond, along with nearby Jensen Grove and Crystal Springs ponds are managed as seasonal put-and-take Rainbow Trout fisheries.

The Snake River from the Gem State project to the outflow of the upper Idaho Falls Power Plant is primarily a put-and-take and fingerling hatchery Rainbow Trout fishery. Beginning in 2007, White Sturgeon have been planted in the power pools through Idaho Falls to provide a recreational fishery (IDFG 2023). The Department and the city of Idaho Falls stock this reach with hatchery catchable Rainbow Trout. Hatchery Rainbow Trout provide the majority of the angler catch in this reach, but native Yellowstone Cutthroat Trout, wild Rainbow Trout, Brown Trout, Smallmouth Bass and Mountain Whitefish are also important components of the fishery (IDFG 2007). The hydropower impoundments in this reach reduce available spawning habitat, block upstream migration of spawning trout and limit habitat productivity compared to habitat in run of the river reaches. As such, creating a satisfactory trout fishery will require continued hatchery support. Management efforts during this term should focus on evaluating the effectiveness of fingerling trout stockings, and the potential to diversify the fishery using coolwater species introductions to create a quality fishery close to a major urban center. Additionally, consideration should be given to enhancing the sturgeon fishery and potential to allow harvest (IDFG 2023).

The remainder of the upper Snake River from the Idaho Falls Upper Power Plant to the confluence of the Henrys Fork Snake and South Fork Snake rivers (39 miles) supports a popular local fishery for large Rainbow Trout, Brown Trout, Cutthroat Trout, and Mountain Whitefish. Beginning in 2007, White Sturgeon have been planted in this part of the river to provide a recreational fishery. Water is diverted from the river at numerous points in this reach and entrainment and biological low flow needs are largely unquantified and unknown, yet likely have an impact on fish populations. During the irrigation season and early fall, river flows vary depending on the amount ow water released from upriver storage and on amount diverted at each canal. Winter flows are generally low due to upstream storage of water for irrigation delivery. Within this reach of the Snake River, a recently licensed hydroelectric project is slated for construction during the period of efficacy of this management plan. The Countyline Hydroelectric project license requires a minimum bypass flow of 1,500 cfs from the diversion structure for the Idaho and Great Western canals downstream approximately 3 miles from November through April. Additionally, there has been increasing demand for water diversion from the Snake River for managed aquifer recharge. Assessment of potential effects of reduced instream flows on fish populations should be a focus during this plan. Although angler catch rates are typically low, the reach supports a trophy component for both wild trout and grow-and-take hatchery Rainbow Trout. Brown Trout have been known to exceed 30 inches in this reach, and Rainbow Trout occasionally exceed eight pounds or more. Hatchery stocking occurs in the upper power plant pool. Hatchery supplementation to improve the fishery from the Countyline diversion upstream to the confluence of the Henrys Fork and South Fork Snake rivers should be evaluated. The fishery in this area declined following the 1976 Teton Dam failure due to silt deposition and a resulting loss of spawning habitat. Despite this loss of habitat, limited natural reproduction does occur for the trout species listed above, but may be limiting population abundance or growth. Natural production will be supplemented with fingerling Rainbow and Cutthroat Trout as hatchery production allows. Habitat and temperature analysis should be conducted to determine if Brown Trout may be a more suitable species in this reach. This reach is recognized as one of the few remaining reaches of the Snake River in eastern Idaho with high potential to improve existing fish populations. Much of the land along the river is privately owned, therefore establishing public access and boat ramps would be desirable in this reach.

Reservoirs and ponds along the Snake River in this area supporting fisheries include Jim Moore (Roberts), Becker, and Riverside Pond (Ryder Park). Jim Moore Pond was created in 2011 and covers 35 surface acres and is managed with catchable Rainbow Trout, tiger trout, put-and-grow-and-take Channel Catfish. Jim Moore Pond also supports a stunted Yellow Perch population. Artificial aeration during winter periods has been used to offset past winter kills in Jim Moore Pond. Because of the increased survival and stunting of perch, options to control perch abundance should be explored. Additionally, lower lake levels during summer have occasionally resulted in die-offs of hatchery trout. Temperatures should be monitored through summer, and additional means of increasing lake levels should be implemented. Becker (Ryder Park) Pond and Riverside Pond were created in 2017 through a partnership between the city of Idaho Falls, the Department and local contributors. The ponds are managed for high catch rates in excess of one fish per hour. Managing water inputs to keep summer temperatures low remains a priority through the life of this plan, but the use of cool-water species should be explored to improve angler catch rates during summer.

Avian predation by American White Pelicans and Double-crested cormorants on hatchery-supported fisheries represents a substantial management challenge within this area, especially in small impoundments nearest the Lake Walcott pelican colony. Past research has demonstrated an inverse relationship between the level of predation and the distance from a pelican colony. Management actions to mitigate excessive predation (modified stocking season, night stocking, increased fish size) have not been sufficient to maintain hatchery-supported trout put-and-take fishing opportunities. The Management Plan for the Conservation of American White Pelicans in Idaho 2016-2025 (IDFG 2016) establishes pelican management objectives that may help reduce predation conflicts on public fisheries.

Objectives and Strategies

1. Objective: Maintain the size structure and quality of the Smallmouth Bass and hatchery-supported Rainbow Trout fisheries in Lake Walcott.

   Strategy: Monitor populations and work with Minidoka National Wildlife Refuge to increase boat fishing opportunities.

2. Objective: Maintain quality trout, and White Sturgeon fishing in the Snake River from Eagle Rock to American Falls Dam.

   Strategy: Evaluate the trout fishery through mark/recapture fish surveys in December when the streamflow is reduced.

   Strategy: Work with government agencies, power companies, and irrigators to improve water management, maintain a pool stage greater than 30% in American Falls Reservoir and decrease factors limiting fish abundances.

   Strategy: Monitor the discharge of low dissolved oxygen water from American Falls Reservoir to the river below throughout the year.

3. Objective: Maintain quality trout and Smallmouth Bass fisheries in American Falls Reservoir

   Strategy: Evaluate Rainbow Trout stocking strategies and entrainment

   Strategy: Work with government agencies, power companies, and irrigators to improve water management, maintain a pool stage greater than 30% in American Falls Reservoir and decrease factors limiting fish abundances.

   4. Objective: maintain the quality trout, Smallmouth Bass, and White Sturgeon fisheries in the Snake River between American Falls Reservoir and Gem State Dam.

   Strategy: Work with government agencies and irrigators to improve water management and increase winter stream flow.

   Strategy: Participate in and provide technical assistance during land- and water-use planning (e.g., Bingham and Bonneville Counties, other municipalities, and land management agencies) to reduce and prevent development within the historic flood plain.

   Strategy: Monitor species composition and develop a long-term monitoring program for these fisheries.

   Strategy: Offset poor winter survival by stocking fingerling Rainbow Trout annually and seek opportunities to supplement the Brown Trout population with hatchery fingerlings.

Strategy: Stock White Sturgeon below Gem State Dam.

Strategy: Seek opportunities with government agencies and private landowners to develop more angler access points.

5. Objective: Improve sport fishing opportunities in the Snake River from Gem State dam to the confluence with Henrys and South Fork confluence.

   Strategy: Stock White Sturgeon in the power pools through Idaho Falls at annual levels sufficient to cause population growth and evaluate the public's desire to engage in limited sturgeon harvest.

   Strategy: Offset limited spawning habitat with fingerling trout or eyed-egg stockings; evaluate for effectiveness.

   Strategy: Maintain put-and-take trout fishing opportunities where returns meet agency goals.

   Strategy: Maintain trophy component to the existing fishery; evaluate the need for additional regulations to enhance this aspect of the fishery.

   Strategy: Work with partners to understand and minimize entrainment and where applicable assess biologically based low flow recommendations to enhance fish survival.

   Strategy: Obtain angler access through easements or acquisition where possible in the Upper Power plant to the mouth of the Dry Bed; establish boat ramps where necessary.

6. Objective: Investigate and quantify fish population response in the Snake River bypass Reach for the Countyline Hydroelectric Project.

7. Objective: Secure adequate summer flows through Becker Pond and Riverside Pond in Ryder Park to provide satisfactory summer trout fishery.

   Strategy: Work with the city of Idaho Falls to secure summer flows from the Snake River or city sources capable of keeping Becker Pond and Riverside Pond cool during periods of hot air temperatures.

   Strategy: Evaluate the utility of using cool-water species to increase angler catch rates and satisfaction during summer.

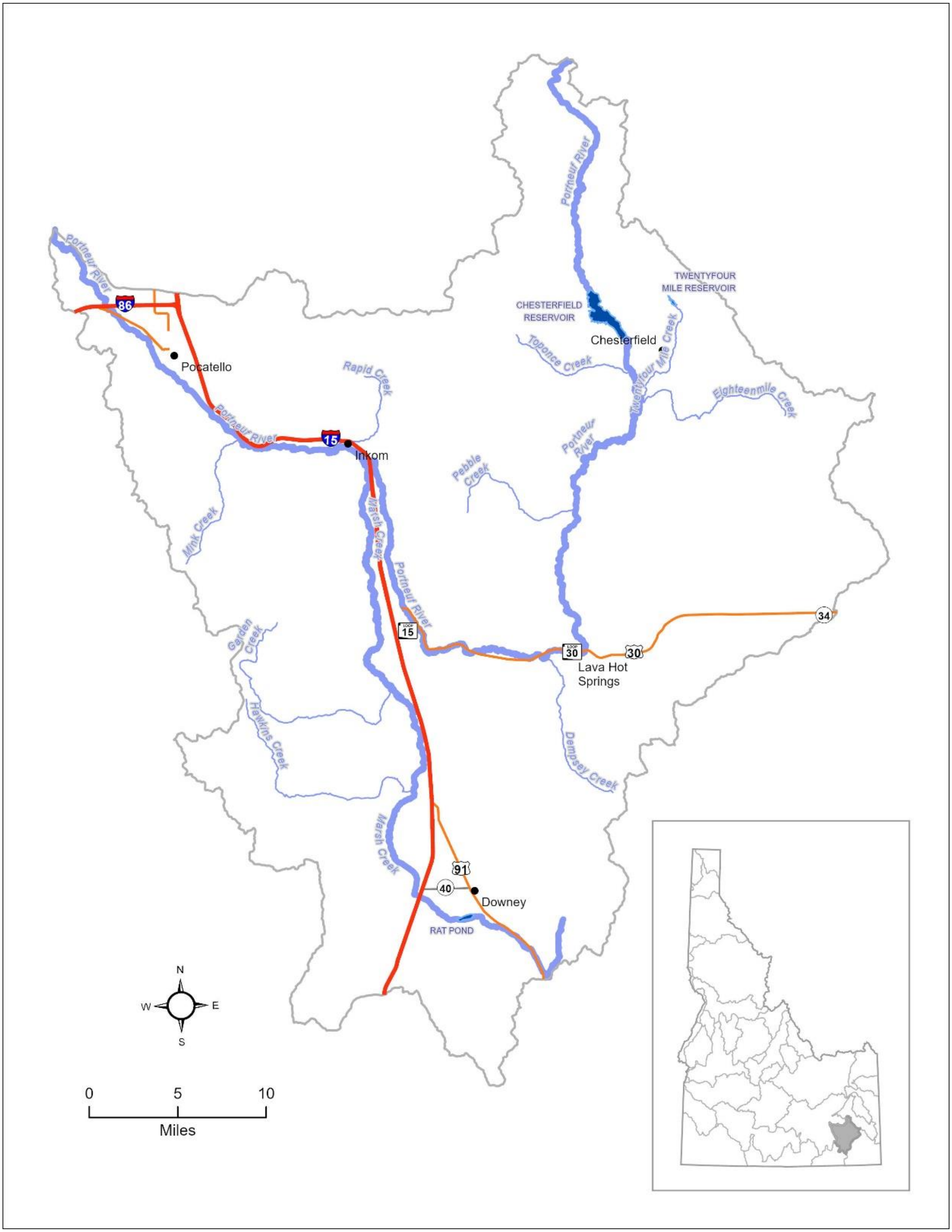
8. Objective: Document and understand avian predation throughout the region.

   Strategy: Where feasible, minimize avian predation in areas where predation is suspected to impact native or important sportfish populations. Prioritize hazing or control actions in heavy predation areas where avian predators and anglers compete or where predation results in substantial fish population impacts.

Drainage: Snake River from Minidoka to Henrys Fork				
Waterbody	Species of Interest	Management Strategies		Additional Management Directions
		Primary	Secondary	
Lake Walcott (8,260 acres)	Cutthroat Trout Rainbow Trout Smallmouth Bass Panfish	Native Hatchery-supported Wild/natural	General Quality Quality Yield	Work with state and federal agencies to increase angler access and to optimize water management to benefit resident fisheries. Monitor impacts of water management changes and seek mitigation if warranted. Continue stocking catchable Rainbow Trout as part of BOR mitigation for Minidoka Dam. Monitor fisheries populations and adjust management direction to conform to findings. Evaluate angler access options on Minidoka National Wildlife Refuge with USFWS. Pursue additional angler access
Rock Creek and tributaries (50 miles)	Cutthroat Trout Rainbow Trout	Native Wild/natural	Quality General	Emphasize protection of wild populations of Yellowstone Cutthroat Trout and nongame fish with special status. Develop angler access. Work with other agencies to minimize grazing impacts through NRCS programs.
Snake River from eastern boundary of Minidoka Wildlife Refuge to Eagle Rock (8 miles)	Cutthroat Trout Smallmouth Bass Panfish Rainbow Trout	Native Wild/natural Wild/natural Hatchery-supported	Quality Quality Yield General	Assess angler desires for quality bass management. Monitor angler use and satisfaction with current fishery.
Snake River from Eagle Rock to American Falls Dam (7 miles)	Rainbow Trout Brown Trout Smallmouth Bass White Sturgeon	Hatchery-supported Wild/natural Wild/natural Hatchery-supported	Quality Quality General Quality	Develop methods to evaluate fish population abundances and trends. Implement White Sturgeon Management Plan.
American Falls Reservoir (55,290 acres)	Rainbow Trout Cutthroat Trout Brown Trout Smallmouth Bass Panfish	Hatchery-supported Native Wild/natural	Quality Quality Quality Yield	Develop methods to evaluate fish population abundances and trends. Work with federal land managers to improve boating access to the northwest portions of the reservoir
Springfield Lake (66 acres)	Rainbow Trout	Hatchery-supported	Trophy	Maintain fishery through stocking large Rainbow Trout to reduce cormorant predation
McTucker ponds (25 acres)	Rainbow Trout Channel Catfish Panfish Largemouth Bass	Hatchery-supported Wild/natural	General	Manage increased angler effort through cooperation with County and Federal partners, to install docks and additional restrooms. Transfer warmwater fish species from other populations as needed.
Snake River from American Falls Reservoir to Gem State Dam (58 miles)	Cutthroat Trout Mountain Whitefish Brown Trout Rainbow Trout Sturgeon	Native Wild/natural Hatchery-supported Hatchery-supported	General Quality Quality	Work with water managers to increase minimum flow. Develop methods to evaluate fish population abundances and trends. Periodically monitor this fishery. Work to refine and improve stocking strategies – may include size at stocking as well as species stocked. Implement the White Sturgeon Management Plan.

Gem State Dam to outflow of Idaho Falls upper power plant (12 miles)	Rainbow Trout Brown Trout Whitefish Smallmouth Bass Cutthroat Trout Sturgeon	Hatchery-supported Wild/natural Native Hatchery-supported	General General Quality	Maintain catch rate for all trout to 0.5 fish/hour Monitor angler use and satisfaction with the fishery. Implement White Sturgeon Management Plan. Consider alternate regulations for sturgeon if public support and desire exists.
Idaho Falls upper power plant to Countyline Hydroelectric Project (7 miles)	Cutthroat Trout Brown Trout Whitefish Rainbow Trout	Native Wild/natural Hatchery-supported	Quality Trophy General	Manage for catch rates of 0.5 fish/hour or better for all trout. Maintain trophy component to the trout fishery Evaluate and expand stocking of fingerling trout to create desirable fishery. Monitor and evaluate fish population response to changing winter flows in the Countyline Hydroelectric Project's bypass reach. I
Countyline Hydroelectric Project to South Fork (32 miles)	Cutthroat Trout Whitefish Brown Trout Rainbow Trout	Native Hatchery-supported Incompatible	Quality Quality	Monitor abundance and factors affecting population trends. Evaluate and expand stocking of fingerling trout or eyed-eggs to increase recruitment and abundance

27. Portneuf River Drainage



Portneuf River
86
Pocatello
Portneuf River
15
Inkom
Rapid Creek
Mink Creek
Marsh Creek
Portneuf River
LOOP 15
Garden Creek
Hawkins Creek
Marsh Creek
91
40
Downey
RAT POND
Portneuf River
CHESTERFIELD RESERVOIR
TWENTYFOUR MILE RESERVOIR
Chesterfield
Toponce Creek
Twentyfour Mile Creek
Eighteenmile Creek
Portneuf River
Pebble Creek
LOOP 30
30
34
Lava Hot Springs
Dempsey Creek
N
W
E
S
0
5
10
Miles

Overview

The Portneuf River and tributaries total 297 miles of stream and drain nearly 1,300 square miles. In addition, there are four irrigation storage reservoirs in the drainage covering 1,704 surface acres. Native fish species found in this drainage include: Yellowstone Cutthroat Trout, Utah Chub, Speckled Dace, Redside Shiner, Green Sucker, Utah Sucker, Mountain Sucker, Paiute Sculpin and Mottled Sculpin; and introduced species include: Rainbow Trout, Brown Trout, Brook Trout, and Common Carp. Mountain Whitefish may be in the lower reach of the Portneuf River below Pocatello as they are present in American Falls Reservoir.

The Portneuf River's headwaters are located on the Fort Hall Indian Reservation. From there, the river flows in a northwesterly direction before emptying into American Falls Reservoir, also on the Reservation. River reaches on the Fort Hall Indian Reservation have not been surveyed by the Department. The SBT manage their reaches of the river as well as a portion of Chesterfield Reservoir that is on the Reservation. From American Falls Reservoir upstream to Pocatello, the river receives considerable spring water and has suitable water temperatures for trout. Where it flows through Pocatello, the Portneuf River was channelized and directed through a flat-bottom, vertical-sided cement flume that is assumed to be a partial barrier to upstream fish movement. The reach from Pocatello upstream to Marsh Creek supports very few trout and receives low angler effort. In-river and riparian habitats are degraded with eroding banks, excess sediment, and high-water temperatures. Much of the sediment in the lower Portneuf River comes from Marsh Creek.

Water quality improves from the confluence of Marsh Creek upstream to the Portneuf-Marsh Valley Irrigation Canal diversion, but low flows caused by irrigation withdrawals limit abundances of Brown Trout, the primary game species in this area. The Marsh Valley Hydroelectric Project (FERC No. P-10468), located at the Portneuf-Marsh Valley Irrigation Canal diversion, is required to maintain a year-round minimum of 10 cfs in the bypass reach below the hydro project, providing some enhancement to aquatic resources downstream of the Portneuf-Marsh Valley diversion.

Very little water is diverted upstream of the Portneuf-Marsh Valley diversion and habitat conditions improve. During the summer, water is added to this reach from Chesterfield Reservoir for irrigation approximately 20 miles downriver at the Portneuf-Marsh Valley Canal. From the Portneuf-Marsh Valley Canal upstream to Lava Hot Springs, approximately four miles, the main threat to fisheries is severe bank erosion caused primarily by livestock and associated lack of riparian vegetation. This area contains a mixture of hatchery and wild Rainbow Trout, Brown Trout, and Cutthroat Trout. The 16 miles from Lava Hot Springs upstream to Kelly-Toponce Road Bridge once supported an excellent native Cutthroat Trout population and was a very popular fishery.

At Lava Hot Springs, the Portneuf River Hydroelectric Project (FERC No. P-7447) diverts water and can limit habitat availability for several hundred yards of the Portneuf River in late summer. Here and throughout the drainage, biological flows would improve habitat suitability and increase survival for hatchery and wild fish.

Beginning in 2004, the approximately 5-mile reach of the upper Portneuf River between the Pebble Area Bridge and the Kelly-Toponce Road Bridge changed to catch-and-release for native Cutthroat Trout. Additionally, stocking of Rainbow Trout in this reach was discontinued. In 2011, to simplify the river reach designations in the rule booklet and facilitate continued enhancement of Cutthroat Trout populations, the no-harvest rule for Cutthroat Trout was changed to include the entire Portneuf River upstream of Lava Hot Springs.

The Natural Resource Conservation Service (NRCS), the Department, angler groups, and landowners began a cooperative effort to correct sediment problems in the Portneuf/Marsh Valley Canal Company's "outlet canal," the channelized reach below Chesterfield Reservoir. This reach was identified as one of the major contributors to high sediment loads in the river below. The 10-mile reach upstream from the Kelly-Toponce Road Bridge to Chesterfield Reservoir has been extensively damaged by stream channel alterations. In 2023, the outlet to Chesterfield reservoir was severely damaged by spring snowmelt runoff. The damage resulted in additional erosion and channel incision.

Since 1996, sediment reduction projects include:

1. Improvement of existing riparian corridor fences.
2. Construction of additional corridor fences.
3. Development of an IDEQ/Soil Conservation District project to exclude livestock from and re-vegetate the outlet canal.
4. Development of a Portneuf-Marsh Valley Canal Company, IDWR, and the Department project to construct grade control structures in the channelized reach below Chesterfield Reservoir.

Major tributaries to the Portneuf River include Mink, Rapid, Marsh, Dempsey, Fish, Pebble, and Toponce creeks. They may serve as spawning areas for trout from the Portneuf River and nursery areas for fluvial trout. However, trout movement and the importance of these tributaries to the river are unknown. Fish Creek has a population of Yellowstone Cutthroat Trout, but due to its geological isolation between travertine waterfalls and hydroelectric project dams (i.e., Marsh Valley Hydroelectric Project P-10468 and Portneuf River Hydroelectric Project P-7447), a fluvial life history for Fish Creek trout is not possible. Toponce Creek is diverted into Chesterfield Reservoir during the non-irrigation months and into irrigation ditches during the summer; there is no ability for native Cutthroat Trout to have a fluvial life history. Currently, Pebble Creek is the most functional tributary for Portneuf River fluvial Cutthroat Trout. In 2014, a stream habitat restoration project was completed in Pebble Creek to improve spawning and rearing for Cutthroat Trout.

There are four irrigation reservoirs in this drainage: Hawkins, Wiregrass, Chesterfield, and Twenty-four Mile. The lack of suitable spawning areas precludes the development of wild trout fisheries in these waters. Chesterfield Reservoir (1992) and Hawkins Reservoir (2016) were chemically renovated to eliminate incompatible, illegally introduced non-native species. Utah Chubs are native to the upper basin and increase in numbers and size during years when there is adequate carry-over water between irrigation seasons. When a perennial water interval begins, trout are stocked and grow very rapidly. Trout stocked as 9-inch catchables the first year grow to 18 to 20 inches and 2.5 to 3.5 lbs. by the following summer. Increased abundance of Utah Chub causes trout growth to slow in following years. The bag limit on trout was reduced from six to three in 1998 and to two in 2002. The former reduction was a response to public concern. At full pool, an island develops on Chesterfield Reservoir. In 2020, pelicans began nesting on the island when nesting was discouraged at the Blackfoot Reservoir nesting islands. Since then, the colony has continued to use the island as a nesting location, while the department has worked to lower predation by hazing and oiling pelican eggs to reduce hatching success, pelican abundance, and predation on nearby fisheries (IDFG 2016). The number of hatchery trout stocked into Chesterfield Reservoir was increased to compensate for increased avian predation to reservoir fish. All reservoirs can be drawn down to meet irrigation demands in drought years. Efficiencies in irrigation management would expand in-river habitat suitability and may improve fishing opportunities.

In 2011, the Edson Fichter Pond was constructed in Pocatello by the Department with local donations contributed significantly to construction. Edson Fichter pond was chemically renovated in 2014 to eliminate incompatible, illegally introduced non-native species. In 2015, a second community fishery, Bannock Reservoir, was built in Pocatello at the Portneuf Wellness Complex. Both ponds provide locally popular yield fisheries for hatchery Rainbow Trout and warmwater species including bass and Bluegill.

Objectives and Strategies

1. Objective: Improve water quality and trout habitat in Portneuf River from Pocatello, upriver to the Kelly-Toponce Road Bridge, including Marsh Creek.

   Strategy: Seek participants in NRCS Continuous Signup Conservation Reserve Program.

   Strategy: Work with partners to implement habitat improvement projects by reconnecting the river to the floodplain and reestablishing riparian vegetation throughout the drainage.

   Strategy: Work with partners to maintain existing riparian corridor fences on private land. Obtain renewed 10-year access and fence maintenance agreement with King Creek Grazing Association.

   Strategy: Seek efficiencies in reservoir management and irrigation to increase reservoir levels and stream flow.

   Strategy: Ensure compliance with FERC license requirements (i.e., minimum bypass flows, flushing flows, and ramping rates, etc.) at the Portneuf River Hydroelectric Project in Lava Hot Springs (FERC No. P-7447) and the Marsh Valley Hydroelectric Project (FERC No. P-10468) outside of McCammon. Anticipate and prepare for FERC relicensing process to begin approximately 2031 for P-7447 and 2034 for P-10468.
   - Conduct surveys and inventories to aid analysis of project effects.
   - Analyze potential project-specific effects and apply the mitigation hierarchy to recommend measures to offset negative effects throughout a project's life cycle.

2. Objective: protect and enhance the Yellowstone Cutthroat Trout population.

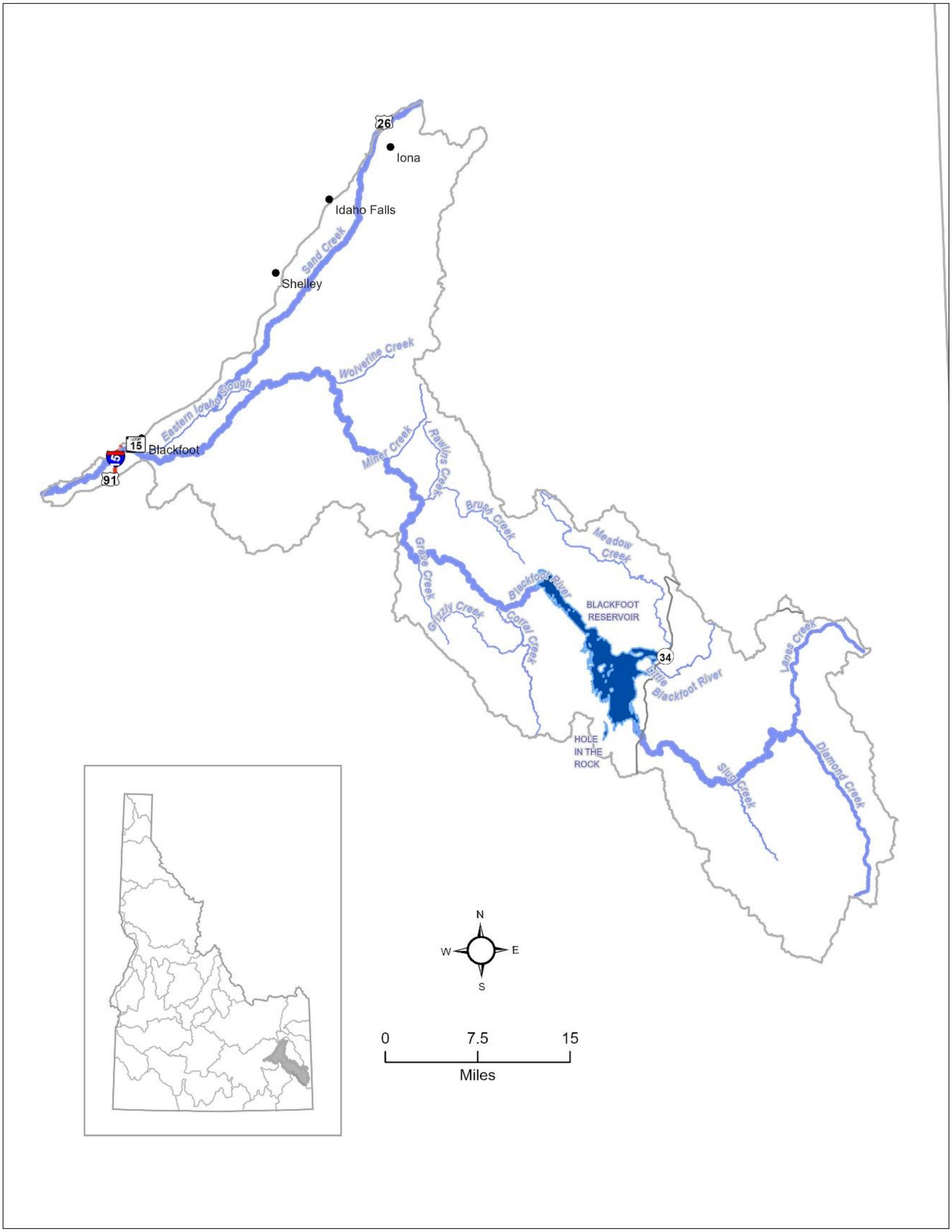
Strategy: Implement the Yellowstone Cutthroat Trout Management Plan by evaluating genetic diversity and purity at Pebble, Toponce, Fish, Dempsey creeks, and establishing a more comprehensive study design for Portneuf River Yellowstone Cutthroat Trout (IDFG 2007a).

Strategy: Implement the 2023 Idaho SWAP (IDFG 2024b).

Drainage: Portneuf River				
Waterbody	Species Present	Management Strategies		Additional Management Directions
		Primary	Secondary	
Portneuf River from American Falls Reservoir to Marsh Creek, including Marsh Creek upstream from the Fort Hall Reservation (30 miles)	Rainbow Trout Rainbow Trout Brown Trout Cutthroat Trout	Hatchery-supported Wild/natural Native	General Quality	Stock sterile catchable size Rainbow Trout in stream reaches upstream of Pocatello when water quality and quantity allow. Work with partners to improve water quality and quantity.
Edson Fichter Pond (3.5 acres), Bannock Reservoir (Wellness Complex in Pocatello) (6 acres)	Rainbow Trout Smallmouth Bass Largemouth Bass Panfish	Hatchery-supported Wild/natural Wild/natural	General General General Yield	Maximize fishing opportunities while minimizing stocking costs.
Portneuf River from Marsh Creek to Marsh Valley Canal diversion (20 miles)	Rainbow Trout Brown Trout Cutthroat Trout	Hatchery-supported Wild/natural Native	General Quality	Stock sterile catchable size Rainbow Trout.
Marsh Creek (55 miles)	Rainbow Trout Brown Trout Cutthroat Trout	Hatchery-supported Wild/natural Native	General Quality	Work with landowners to improve fish habitat. Seek better irrigation return flow quality through NRCS projects and IDEQ regulation.
Hawkins Reservoir (54 acres)	Rainbow Trout	Hatchery-supported	General	Stock sterile Rainbow Trout in early spring.
Portneuf River from Marsh Valley Canal to Lava Hot Springs (7 miles)	Rainbow Trout Brown Trout Cutthroat Trout	Hatchery-supported Wild/natural Native	General Quality	Limit sterile hatchery Rainbow Trout stocking zone to the upper three miles near town. Improve riparian habitat. Work to identify and codify agreements for angler access.
Portneuf River from Lava Hot Springs to Chesterfield (23 miles)	Rainbow Trout Brown Trout Cutthroat Trout	Wild/natural Native	Quality Quality	Reduce sedimentation via upstream habitat improvement in canals and tributaries. Monitor impacts to trout abundances when river is diverted for hydropower at Lava Hot Springs. Maintain riparian corridor fences and access agreements with landowners. Seek public fishing access from landowners.
Chesterfield Reservoir (1,250 acres)	Cutthroat Trout Rainbow Trout Hybrid Trout	Native Hatchery-supported	Quality	Stock sterile catchable size Rainbow Trout when Utah Chubs limit survival and growth of fingerlings.
Portneuf River above Chesterfield Reservoir (25 miles)	Cutthroat Trout	Native	Quality	This reach is on the Fort Hall Indian Reservation. It contains many large beaver ponds and contains Utah Chubs which are a source for repopulation of Chesterfield Reservoir after chemical renovation.
Pebble Creek (10 miles), Toponce Creek (12 miles)	Cutthroat Trout Rainbow Trout	Native Hatchery-supported	Quality General	Estimate genetic purity of the cutthroat trout population. Seek habitat improvement project opportunities. Stock only sterile hatchery trout.

24-Mile Reservoir (44 acres)	Hybrid Trout Rainbow Trout	Hatchery-supported	Trophy	Maintain moderate stocking rate.

28. Blackfoot River Drainage



Overview

The Blackfoot River and tributaries total 346 stream miles. Blackfoot Reservoir covers 18,000 surface acres and contains 350,000 acre-feet of water at full capacity. The Blackfoot River is the reservoir's major tributary and has a mean annual flow of 168 cfs. Flow is also diverted from Grays Lake via Meadow Creek for additional storage water. The river upstream from the reservoir extends 35 miles to its origin at the confluence of Lanes and Diamond creeks. Fish species found in this drainage include the following native species: Mountain Whitefish, Yellowstone Cutthroat Trout, Utah Chub, Longnose Dace, Speckled Dace, Redside Shiner, Utah Sucker, Mountain Sucker, Paiute Sculpin, Mottled Sculpin, and Northern Leatherside Chub; as well as the following introduced species: Rainbow Trout, Brook Trout, Common Carp, and illegal introductions of Yellow Perch and Smallmouth Bass. Bonneville Cutthroat Trout from Bear Lake were also briefly stocked in the 1980s and 1990s in an attempt to naturalize this species to the Little Blackfoot River but attempts were unsuccessful, and stocking of this species was terminated in 1995.

One of the largest phosphate ore reserves in the United States is located in this drainage. Environmental impacts associated with phosphate mining have resulted in elevated levels of selenium in the fish and wildlife in the upper Blackfoot River drainage. Investigations to identify source areas, contaminated media, and cleanup plans at historical mine sites have been ongoing. Pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, the Clean Water Act, and all other relevant and applicable legal authorities, the State of Idaho, the United States Department of the Interior, and the United States Department of Agriculture have been conducting a natural resource damage assessment and restoration for the Southeast Idaho Phosphate Mine Assessment Area. Although modern mining and reclamation practices have improved over legacy practices that contributed to leaching of pollutants, the persistence of elevated selenium levels in some tributaries in the Blackfoot drainage may be continuing to limit the recovery of the Cutthroat Trout (IDFG 2007a).

The Blackfoot River, its tributaries, and Blackfoot Reservoir are important habitats for Yellowstone Cutthroat Trout that historically supported a large population. Mature Yellowstone Cutthroat Trout from the reservoir ascend the river in April and May and enter upper tributaries or the main river channel to spawn in late May and June. Most of the progeny rear in the tributaries from one to two years. Some juvenile Yellowstone Cutthroat Trout then migrate to Blackfoot Reservoir and remain for a year or more until they are ready to return to the river to spawn.

Studies completed on the reservoir and river in the 1970s and 1980s indicated that the Yellowstone Cutthroat Trout population was being over-exploited. Size and number of Cutthroat Trout caught had decreased significantly prior to 1985. Regulations to offset this decline were implemented in 1985 but were ineffective. By 1988, the Yellowstone Cutthroat Trout population and fishery had completely collapsed.

A major management planning effort was initiated in 1988 for the entire Upper Blackfoot System. Since 1990, harvest has been closed to Cutthroat Trout caught in the reservoir. From 1990 through 1997, only two Cutthroat Trout over 18 inches could be taken per day on the river. Since 1998, all Cutthroat Trout have had to be released on the upper Blackfoot River and tributaries. No bait fishing is allowed on the river upstream of the reservoir. Computer modeling to simulate the wild trout population indicated that 12 to 15 years would be necessary under these regulations before the wild Cutthroat Trout fishery could be restored to 1959-60 levels. As of 2001, the status of the population appeared to improve with large numbers of spawners observed on spawning tributaries and upper river anglers reporting good catches of large Cutthroat Trout. However, the population crashed to all-time lows by 2006 due to avian predation (Teuscher et al. 2015).

Documentation of American White Pelican (pelican) predation impacts on Yellowstone Cutthroat Trout began in 2002 and included estimates of pelican exploitation on Yellowstone Cutthroat Trout. Initial minimum estimates of predation were completed using telemetry tagged Cutthroat Trout. To increase sample size, PIT tagging studies were initiated in 2010 and have been completed annually. Average predation rates on juvenile and adult Cutthroat Trout were 30%. The highest rates of predation on both size classes exceeded 70%. The recent studies are completed using PIT tag recoveries and correcting for off-island deposition of PIT tags (Teuscher et al. 2015; Meyer et al. 2016). Based on those results, pelican predation was identified as the most significant limiting factor preventing Cutthroat Trout recovery (IDFG 2007a). Since the 2015 study was published, pelican populations have declined and were approaching the state management goal. In 2017, predation rates were the lowest measured to date. However, since 2017 predation rates have varied with some years exceeding 30% while other years predation is much lower. Pelican abundances and foraging success likely depend on large-scale and local environmental factors. Continued research into this problem is warranted.

Results from past predation studies prompted the Department to develop a management plan for American White Pelicans (IDFG 2016). The first plan was completed in 2009 and updated in 2016. The pelican management plan will be revised again in 2024. The plan describes management actions to reduce nesting numbers at Blackfoot Reservoir and set a population objective for nesting adults. In 2020, the Department used increased hazing techniques to move the pelican colony to Chesterfield Reservoir in an attempt to reduce pelican predation on Cutthroat Trout.

Another potential threat to Cutthroat Trout recovery in the Blackfoot drainage is the illegal introduction of Smallmouth Bass to Blackfoot Reservoir. This species was first documented by Department surveys in 2015. During surveys in 2022, it appeared that this species was localized to areas of suitable habitat in Blackfoot Reservoir, but concerns remain regarding the potential for Smallmouth Bass to consume juvenile Cutthroat Trout as they move into Blackfoot Reservoir.

Riparian conditions in the upper Blackfoot River and tributaries are impaired from legacy land management practices. Several recent habitat projects have been completed to improve these conditions. Additional work is needed to improve habitat complexity to increase carrying capacity and reduce bird predation losses described previously. To that end, discussions with the Bear Lake Grazing Association were initiated in 2017 to begin habitat improvement projects on private land in exchange for grazing the Blackfoot River WMA. The grazing exchange has been successful at reducing densities of grazing livestock from the tributaries during the spawning period

The lower Blackfoot River downstream from Government Dam is limited by low flow in the fall and winter which is required to fill the reservoir. However, increased flows are unlikely in years when the Blackfoot Reservoir is low. After an extended drought such as occurred from 1987 to 1992 and again from 2000 to 2005, at least two consecutive years of above-normal precipitation are required to refill Blackfoot Reservoir. Achieving higher flows in the lower river is unlikely to occur in this irrigated landscape.

Trout harvest from Blackfoot Reservoir is entirely hatchery Rainbow Trout because Yellowstone Cutthroat Trout must be released. Cutthroat Trout made up about 90% of the catch from the river and tributaries upstream from Slug Creek. Creel surveys completed in 2023 found that while Rainbow Trout catch rates were relatively low (0.18 fish/hr.), the harvest rate of Rainbow Trout was high (78%). This could be an artifact of the historically harvest oriented fishery at Blackfoot Reservoir when Yellowstone Cutthroat Trout were the target species, abundances were robust, and harvest opportunities were significant. Although most surveyed anglers were targeting

Rainbow Trout, the low catch rates did not appear to impact their overall satisfaction. This may be partially explained by angler motives, where most anglers indicated they were motivated by non-angling factors. The low amount of crowding likely contributed to this high satisfaction rate as well. The Department is committed to restoring this fishery, though pelican predation and drought continue to be challenging.

Objectives and Strategies

1. Objective: Protect genetic integrity of Yellowstone Cutthroat Trout in the Upper Blackfoot River.

Strategy: Implement the Yellowstone Cutthroat Trout Management Plan with management actions including habitat improvement projects and avian predation management (IDFG 2007a).

Strategy: Implement the management actions described in the 2023 Idaho SWAP with particular respect to habitat rehabilitation in the Blackfoot drainage (IDFG 2024b).

Strategy: Install signs to help anglers distinguish among Rainbow Trout, Cutthroat Trout, and their hybrids and inform them of the need to harvest Rainbow and hybrid trout.

2. Objective: Establish an appropriate balance between management goals for Cutthroat Trout and pelicans in the Blackfoot Drainage.

Strategy: Implement the management actions described in the Pelican Management Plan to reduce avian predation on Cutthroat Trout (IDFG 2016).

Strategy: collaborate with local partners to develop trout habitat improvement projects that simultaneously deter pelican behaviors detrimental to trout populations.

3. Objective: Maximize return-to-creel of sterile Rainbow Trout.

Strategy: Complete evaluation of release timing (spring vs. fall) and size-at-release (catchables vs. Fingerlings) to improve return-to-creel.

4. Objective: Evaluate Yellowstone Cutthroat status by estimating abundance and distribution through a broad monitoring program that accounts for resident, fluvial, and adfluvial life-histories.

Strategy: Estimate abundances of juvenile and adult Cutthroat Trout in the mainstem Blackfoot River, and tributaries.

Strategy: Continue tagging juvenile and adult Cutthroat Trout to estimate pelican predation.

Strategy: Improve understanding of life-history strategies.

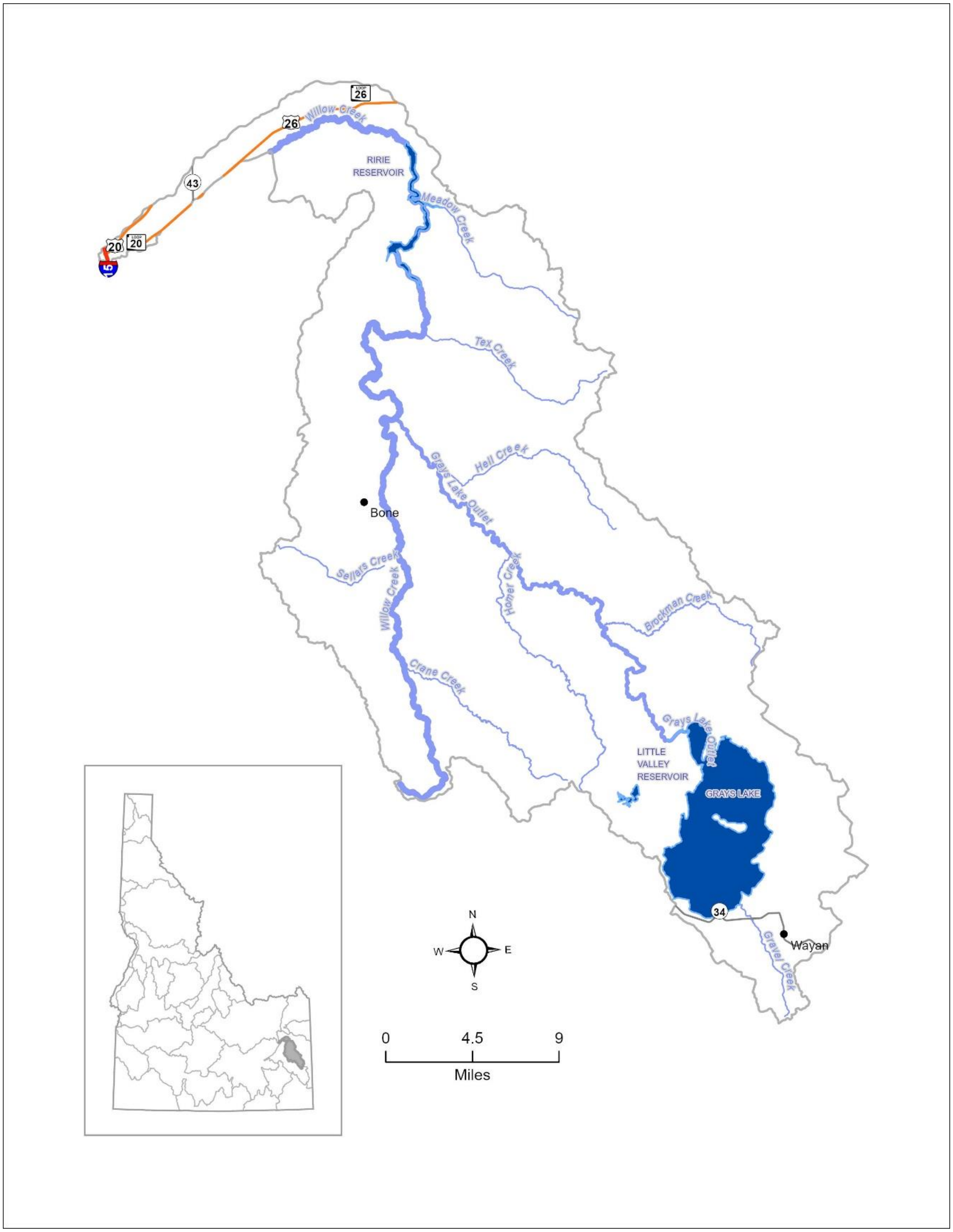
5. Objective: Increase natural production of Cutthroat Trout in the upper Blackfoot River and tributaries.

Strategy: Identify factors limiting spawning and recruitment of Cutthroat Trout.

Strategy: Complete habitat rehabilitation projects where habitat is limiting spawning and recruitment of Cutthroat Trout.

Drainage: Blackfoot River				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
Blackfoot River from mouth to equalizing reservoir (15 miles)	Rainbow Trout Cutthroat Trout Mountain Whitefish	Hatchery-supported Native Native	General Quality General	Survey fish abundances periodically. Evaluate exploitation of wild and hatchery trout. Identify, acquire, and improve angler access.
Blackfoot River from equalizing reservoir to Government Dam (65 miles)	Rainbow Trout Cutthroat Trout Mountain Whitefish	Hatchery-supported Native Native	General Quality General	Survey fish abundances periodically. Evaluate use and exploitation of wild and hatchery trout. Stock only sterile hatchery trout.
Tributaries to the Blackfoot River from mouth to Government Dam (110 miles)	Cutthroat Trout	Native	Quality	Protect and enhance stream habitat.
Blackfoot Reservoir (16,890 acres)	Rainbow Trout Cutthroat Trout Panfish Smallmouth Bass	Hatchery-supported Native Wild/natural Incompatible	General Quality Yield	Stock only sterile Rainbow Trout and evaluate stocking strategies. Maintain populations and continue to assess impacts of avian predators on Cutthroat Trout. Monitor status of illegally stocked Yellow Perch and Smallmouth Bass.
Blackfoot River and tributaries above the reservoir (90 miles)	Rainbow Trout Brook Trout Cutthroat Trout	Incompatible Native	Incompatible Quality	Assess electric weir operation and purpose. Adjust management and operation to maximize effectiveness based on contemporary needs. Rehabilitate stream habitat, assess impacts of avian predators, and continue to identify limiting factors and develop strategies to improve recovery of Cutthroat Trout Acquire property or otherwise work with private landowners to establish and develop new angler access sites in the upper drainage.

29. Willow Creek Drainage



Overview

Major tributaries to Willow Creek are Grays Lake Outlet and Cranes, Meadow, and Tex creeks. Since 1924, up to 20,000 acre feet of water a year has been diverted from the Willow Creek drainage to Blackfoot Reservoir through Clark's Cut Canal, which reduces the mean annual flow in this creek. The construction of Ririe Dam, a rockface, earth-filled structure, was completed by the Corp of Engineers in 1976. The reservoir has a total capacity of 80,540 acre feet, a surface area of 1,470 acres, and is managed for priorities of flood control, irrigation water storage, and recreation. The reservoir is drawn down to 50,000 acre-feet annually by November 1 to provide winter flow storage (flood control). Although the fisheries in the Willow Creek Drainage are faced with substantial habitat and flow related challenges, the persistence and recent expansions of native Yellowstone Cutthroat Trout make managing for native fish a priority for this drainage. Supplemental hatchery releases in the Willow Creek drainage for improvement of angler opportunity will be considered on a case-by-case basis where fish populations have been impacted or where substantial habitat restoration projects have resulted in newly improved habitat.

The 20 miles of Willow Creek below Ririe Dam are controlled for irrigation and flood control. This segment of Willow Creek is annually dewatered to keep ice buildup within the stream channel from causing floods and property damage near Idaho Falls. While releases from Ririe Dam are reduced to zero during winter, a wild Yellowstone Cutthroat Trout population is persisting in the dam’s tailrace in pools in the uppermost half mile of stream which persist through the winter from water leaking through the dam. Population surveys combined with tagging efforts have documented survival of individual fish over multiple years and the population is considerable given the amount of winter habitat available. In the summer, flows in Willow Creek are augmented via irrigation water from the South Fork Snake River. Due to concerns with icing and resulting flooding, year-round flow releases from Ririe Dam are unlikely. Prior to dewatering lower Willow Creek in 1976, the catch rate was 0.44 trout/hour with 10,500 hours (5,600 angler days) of effort expended, annually. No creel survey has been conducted in recent years; however, aside from the reach of Willow Creek immediately below Ririe Dam, the fishery is now largely non-existent.

Ririe Reservoir, 20 miles from Idaho Falls, has developed into a popular fishery, and it supports one of the highest levels of harvest in the Upper Snake Region. In 2019, fishing effort was approximately 90,000 hours with a catch rate of 0.8 fish per hour. This fishery is supported primarily through hatchery releases of sterile Rainbow Trout and kokanee, as well as self-sustaining populations of Smallmouth Bass and Yellow Perch. In 2001, the trout stocking program was shifted from sterile Rainbow Trout to fine-spotted Yellowstone Cutthroat Trout. Initially, evaluation of return-to-creel indicated the program had successfully replaced the Rainbow Trout fishery. However, body condition on Yellowstone Cutthroat Trout suggested they were not foraging as effectively as Rainbow Trout, resulting in poor growth and dissatisfaction among anglers. Dissatisfaction was significant enough that in 2013, we replaced Yellowstone Cutthroat stockings with sterile Rainbow Trout. Angler catch rates on trout have since improved. Kokanee have been stocked since 1990, and the stocking rate was increased in 2002 to increase catch rates. This proved effective, as catch rates for kokanee increased from 0.04 fish/hour in 1993 to 0.28 fish/hour in 2010. Much of this was due to an increasingly popular ice-fishery. Thirty percent of the effort in 2010 was during the ice-fishery which was non-existent in 1993. Since 2010, we increased kokanee stocking rates to 310,000 fish, and catch rates increased to 1.0 fish per hour in 2015. In 2008, Walleye were captured in gill nets and appear to have established a naturally reproducing population. This new species was illegally introduced and maintained a low abundance for several years. Fall monitoring gill-net surveys conducted in 2023 indicated substantial population growth due to a strong 2021 year class of Walleye. If Walleye continue to increase in abundance, popular kokanee and Yellow Perch populations are likely to collapse. Continued monitoring of this recent change in relative abundance combined with research of potential management possibilities to address the threat of Walleye to Ririe Reservoir and surrounding fisheries should be prioritized. Smallmouth Bass were introduced into Ririe Reservoir from 1984 to 1986. A self-reproducing population has developed from the original introductions. The Smallmouth Bass fishery in Ririe Reservoir, in terms of fish size, is characterized by very slow growth due to the short growing season at this latitude and elevation. Smallmouth Bass growth is much slower than for lower elevation, western Idaho impoundments. Because of the slow growth, quality size structure is not attainable. Research has shown that it takes seven or eight years for a bass to reach the historic 12" size limit. As such, and with public support, the 12" minimum size limit was removed from bass in 2015. Initial creel surveys show that bass harvest doubled from 1,043 (2010) to 1,965 in 2015. Despite increased harvest, Smallmouth Bass abundance has continued to increase. The Department should continue to monitor growth and survival of Smallmouth Bass and Walleye to adjust management strategies if needed.

The Yellow Perch fishery fluctuates annually due to the reservoir drawdown and the loss of inundated littoral areas and cover that perch need for spawning. When reservoir levels increase, the Yellow Perch population and fishery respond producing large catches of 7-10 inch perch. Angler catch rates on Yellow Perch reached an all-time high in 2016 which supported high catch rates through 2019. Since 2019, relative abundance of Yellow Perch in gill-net surveys and angler catch rates have declined. Yellow Perch average size also decreased. Gill-net surveys from 2023 indicate Yellow Perch recruitment has increased in recent years which should lead to increased adult abundance. Yellow Perch in Ririe Reservoir, like other perch populations in Idaho appear to go through boom-and-bust cycles typical for this species.

The 95 miles of streams in the Willow Creek drainage above Ririe Reservoir are mainly in narrow canyons and contain limited populations of Brook Trout and genetically pure Yellowstone Cutthroat Trout. Additionally, Green Sucker may be present in this reach of stream as indicated from eDNA results from 2023 samples. Water flows vary from extremes of several thousand cubic feet per second during runoff to a few cubic feet per second in late summer and winter. Intense grazing combined with drought conditions have contributed to poor riparian habitat in the upper watershed. Water quantity and quality have declined as a result. The NRCS once identified the Willow Creek drainage as one of the ten highest soil erosion areas in the United States. A water quality program has been initiated to reduce loss of topsoil and improve the water quality of Willow Creek above Ririe Dam. Riparian habitat improvement through improved grazing management is a high priority on both state and private lands. Since 2022, Department fisheries and wildlife habitat staff have been working with BLM and the BOR to improve stream connectivity, riparian habitat, and late summer stream flows, as well as reduce sediment in Tex Creek, Indian Fork, and Willow Creek in and around the Tex Creek WMA. This cooperative effort has been gaining momentum and both available funding and collaborative partners have been increasing with the addition of the USFS and Trout Unlimited. The collaborative group working towards habitat restoration in the Willow Creek drainage upstream of Ririe Reservoir have prioritized locations for restoration activities using the current distribution of Yellowstone Cutthroat Trout. Efforts to monitor impacts of restoration activities on the abundance, life history strategy, and status of the Yellowstone Cutthroat Trout populations should be prioritized to help inform future restoration efforts.

Cutthroat Trout in the mainstem areas of Willow Creek and Grays Lake Outlet are likely dependent on downstream movement from tributary spawning and nursery areas. Many tributaries of Willow Creek contain native populations of Yellowstone Cutthroat Trout and nongame species. At least two tributaries also contain nonnative Brook Trout. Though Brown Trout have been stocked and captured in survey work in the past, none have been collected in population surveys during the past two decades. Native Cutthroat Trout populations are presently depressed in the drainage but remain viable.

Overharvest of Cutthroat Trout once contributed to the decline of this species, but restrictive harvest regulations combined by a generally low level of effort have reduced angling exploitation as a threat. Cutthroat Trout presently dominate the catch in some tributaries; however, angling effort has been minimal in recent years. Hatchery catchable Rainbow Trout and Brown Trout fingerlings are no longer stocked in the Willow Creek drainage above Ririe Reservoir. No wild Rainbow Trout have been found in the Willow Creek drainage and genetic surveys in 1999, 2000, and 2021 have documented that Willow Creek Cutthroat Trout are free of Rainbow Trout introgression. Since 2011, the Willow Creek Drainage has been closed to all harvest of Cutthroat Trout, which has prompted some landowners to seek alternate species for stocking to provide a harvest-oriented fishery in the Willow Creek Drainage. Management will need to be responsive to these requests as possible to avoid frustrated anglers from engaging in unauthorized stockings of undesirable species in the drainage.

Objectives and Strategies

1. Objective: Increase abundance of native Cutthroat Trout in Willow Creek and tributaries.

   Strategy: Implement actions listed in the Yellowstone Cutthroat Trout Management Plan (IDFG 2007a).

   Strategy: Evaluate Brook Trout populations and assess the need and potential for chemical renovations.

2. Objective: Improve instream and riparian habitats throughout the Willow Creek drainage.

   Strategy: Work to improve habitat, stream flow protection and enhancement, and connectivity to provide adequate spawning habitat and passage for reservoir salmonids.

   Strategy: Seek opportunities to work with willing landowners to improve riparian areas by using fencing, riparian restoration, or other methods.

   Strategy: Implement projects that reduce or eliminate sediment additions to the Willow Creek Drainage; implement bank stabilization projects as possible.

3. Objective: Maintain a desirable salmonid fishery with multiple life histories, ensuring measures are consistent with Yellowstone Cutthroat Trout conservation.

   Strategy: Continue to stock appropriate numbers of sterile hatchery trout in Ririe Reservoir to support angler catch rates of 1.0 fish per hour for hatchery fish.

   Strategy: Stock enough kokanee annually to maintain catch rates of at least one fish per hour and continue to refine length-at-age and catch rate relationships to optimize the fishery.

4. Objective: Maintain a satisfactory Smallmouth Bass and Yellow Perch fishery in Ririe Reservoir.

5. Objective: Determine impacts to the Ririe Reservoir recreational fishery from illegally introduced Walleye.

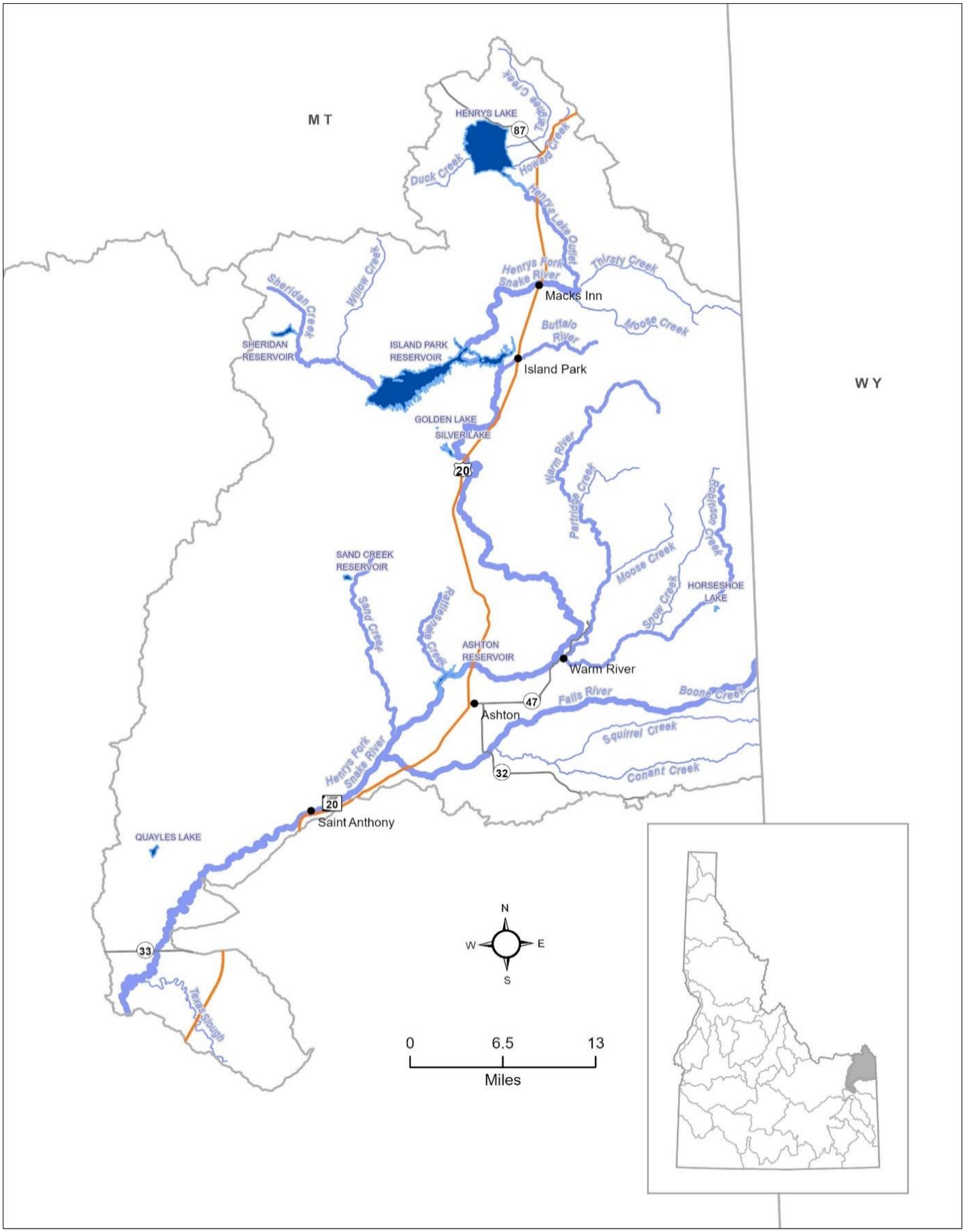
Strategy: Conduct periodic gill net surveys to monitor Walleye and salmonid populations.

Strategy: Assess and determine the effect of Walleye predation on the survival of stocked salmonids, especially kokanee and adjust stocking strategies accordingly.

Strategy: Investigate the potential to suppress Walleye abundance in Ririe Reservoir using different management tools.

Drainage: Willow Creek				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
Willow Creek from Eagle Rock Canal to Ririe Dam (5 miles)	Cutthroat Trout	Native		Area seasonally dewatered and has BOR human entry closure near RIrie Dam. Continue to monitor overwinter survival, abundance, and genetic integrity of Cutthroat Trout in the Ririe Dam tailrace.
Ririe Reservoir (1,420 acres)	Cutthroat Trout	Native	Quality	
	Rainbow Trout Kokanee	Hatchery-supported	General	Trout put-and-take fishery. Stock sufficiently to produce 1.0 fish per hour catch rates or better.
	Yellow Perch Smallmouth Bass	Wild/natural	Yield	Continue to monitor angler catch and harvest rates of Smallmouth Bass, and periodically assess growth.
	Walleye	Incompatible		Implement actions to reduce Walleye abundance as possible
Willow Creek and Grays Lake Outlet above Ririe Reservoir (95 miles)	Cutthroat Trout	Native	Quality	Restore self-sustaining populations of native Cutthroat Trout through minimizing fishing mortality, enhancing fish habitat, and completing fish passage projects.
	Rainbow Trout	Hatchery-supported	General	Continue put-and-take opportunities to meet angler expectations and desires for harvestable fish in select locations of Willow Creek which do not impact Cutthroat Trout recovery efforts.
All other tributaries (90 miles)	Cutthroat Trout	Native	Quality	Restore self-sustaining populations of native Cutthroat Trout through habitat enhancement, spawning closures, fish passage projects and no-harvest rules where appropriate.
	Brook Trout	Incompatible		Evaluate Brook Trout populations for threat to native Cutthroat Trout, and consider chemical renovation where warranted.

30. Henrys Fork Snake River Drainage



Overview

The Henrys Fork drainage provides one of the most important wild Rainbow Trout fisheries in the state. Important tributaries include the Buffalo, Warm, Fall, and Teton rivers. Major still water fisheries in the drainage are Henrys Lake, Island Park Reservoir, and Ashton Reservoir. The Teton River is discussed as a separate drainage.

The Henrys Fork from St. Anthony to Big Springs attracts anglers from throughout the nation. A major part of the fishing effort is from tourists traveling to Yellowstone National Park. An economic survey conducted in 2004 estimated that anglers spent nearly 170,000 angler days in the Henrys Fork drainage from May through September, and that the fishery generated nearly $30 million to the local economy. Because of the impacted nature of this drainage (dams, diversions, etc.), the abundance of nonnative fish, and the inability to successfully eradicate nonnative fish and establish native fish, combined with input from our angling public, this drainage will be managed for both native and introduced species.

Management of the Henrys Fork from the mouth to Island Park Dam will emphasize wild populations of Rainbow Trout, Brown Trout, and Cutthroat Trout, primarily without hatchery supplementation. The Henrys Fork Snake River below St. Anthony is near the lower end of the river segment where flows are managed for irrigation using releases from Island Park Reservoir, Henrys Lake, and Grassy Lake and can suffer with low flows caused by irrigation withdrawals. Recent automation improvements to diversion headgates have improved precision management capabilities and the Fremont-Madison Irrigation District has placed added emphasis on managing for flows in this reach of the river. Fortunately, the Henrys Fork between St. Anthony and the Red Road has several spring inputs which help maintain flows and cool temperature during summer base flow/irrigation period. Channel complexity and diversity between St. Anthony and the confluence with the Teton River is high and offers good seasonal trout habitat. The habitat below the confluence of the Teton River is severely degraded as a result of the Teton Dam failure in 1976. Despite these limitations, this river reach supports wild trout populations, and in recent years has seen an increase in angler use.

The reach of river from St. Anthony to Mesa Falls is currently producing good numbers of wild Rainbow Trout, with increasing numbers of Brown Trout. Whitefish, which were once abundant, have been declining in recent surveys. Screens to exclude trout have been added to irrigation diversions on the Crosscut and Last Chance canals and to the Dewey Canal below Ashton Dam. These are the first canals on the Henrys Fork to be screened. Additionally, an operational fish ladder was constructed at Chester Dam to allow for upstream and downstream movement. Over the past several years, trout populations above and below Chester Dam have increased or been stable in terms and abundance and size over prior years, suggesting that these screens have been effective at keeping trout in the river as opposed to in the canal systems.

The Henrys Fork from Riverside Campground to Island Park Reservoir supports a world-famous wild Rainbow Trout fishery. Catch rates and trout population sizes declined steadily through the 1980s and early 1990s due to changes in Island Park Reservoir water management. Both rebounded significantly in 1993 after the 1992 draining and chemical renovation of Island Park Reservoir, consistent with an increase in natural annual precipitation. However, a sedimentation event resulting from the drawdown of Island Park Reservoir in 1992 deposited a large quantity of fine sediment in the Harriman Ranch area, which impacted habitat in this area. Macroinvertebrate and sediment transport studies conducted by the Henrys Fork Foundation have demonstrated an impact of turbidity/sediment on macroinvertebrate species diversity and have documented multiple years of positive sediment transport out of this reach of river during spring when freshets brought high water prior to establishment of macrophyte vegetation. Densities of trout have increased since 2008, with improvements in winter flow management from Island Park Dam. Research conducted by Montana State University and the Department from 1995 through 2005 and ongoing Department research have verified the importance of winter flows in the Box Canyon reach. Higher flows from Island Park Dam through the winter result in higher overwinter survival of juvenile trout and subsequent recruitment to the fishery below Island Park Reservoir. Implementation of a congressionally mandated Drought Management Plan has improved communications and planning around winter discharges and modernization of irrigation infrastructure and participation by the irrigation community has resulted in more water remaining in Island Park Reservoir during winter for even poor water years, which increases the opportunities to increase winter flows to benefit the fishery. We will continue to work cooperatively with stakeholders to maximize wild trout production below Island Park Dam.

Ashton Reservoir is annually supplemented with hatchery catchable Rainbow Trout as part of a mitigation agreement with PacifiCorp, the operator of Ashton Dam. Management focus on this reach should continue to be focused on a yield fishery with high catch rates. Substantial repair work on Ashton Dam in 2009, caused the reservoir to be drained periodically, but it has since stabilized and any impacts to the fish populations appear to have diminished. Ashton Reservoir supports the only Yellow Perch population in the watershed which has been garnering increased attention from anglers, especially ice anglers. Currently, winter access to safe ice in Ashton Reservoir is extremely limited. Efforts to provide anglers, especially winter anglers, additional access to Ashton Reservoir should be prioritized during the implementation of this plan.

Island Park Reservoir is a widely fluctuating irrigation supply reservoir with a mean surface area of 8,400 acres. Historically, the reservoir has provided an important fishery for Rainbow Trout and kokanee, with catch rates up to 0.6 fish/hour. The reservoir has a long history of being chemically renovated to reduce nongame fish (primarily Utah Chubs and Utah Sucker) abundance and improve the sport fishery. Most recently, the reservoir was chemically treated in 1992. However, the fishery did not benefit as expected. Catch rates for the three years following the 1992 renovation failed to exceed 0.4 fish/hour. Following the 1992 renovation, alternative species of salmonids were stocked in an effort to identify a piscivorous sportfish that would take advantage of the abundant Utah Chub forage base. Lahontan Cutthroat Trout were stocked from 1993 to 1997 and splake were stocked from 1995 through 1998. Subsequent monitoring indicated that both species performed as well as, but no better than, Rainbow Trout and kokanee, and therefore the Lahontan Cutthroat Trout and splake stockings were discontinued. Considering the poor response of the fishery combined with the delivery of several thousand tons of sediment to the Henrys Fork below Island Park Dam, the social and economic cost of the renovation greatly outweighed any benefits of the 1992 treatment.

The fishery continued to decline through 2005, largely due to the drought and reservoir drawdown. Analysis of gill-net and angler catch rates clearly demonstrate the relationship between winter carryover and fish populations. Another important factor influencing angler and gill-net catch rates is the stocking rate in the years prior. The decline in the fishery is likely the result of factors associated with the drought that was concurrent with a decrease in stocking rates. At the same time fish populations were being adversely impacted by the reservoir drawdown, the stocking program was modified, both in terms of number and type of fish. Fertile Rainbow Trout were replaced with sterile Rainbow Trout, and the annual fingerling plant was reduced, in part to accommodate the program of supplementing the Henrys Fork above the reservoir with Cutthroat Trout fingerlings. Since this time, we have returned to stocking larger Rainbow Trout in the spring. The survival of both hatchery Rainbow Trout and kokanee has been low in Island Park Reservoir, and management for kokanee, in particular, remains a challenge. Fish stockings in Moose and Lucky Dog creeks did not result in a return of adult spawning fish in subsequent years despite supplementation efforts with eyed-eggs in streamside incubators or artificial redds. A remnant population of wild kokanee can still be found in the Henrys Lake Outlet below the North Big Springs Loop bridge, but adults typically number in the hundreds as opposed to thousands, and wild kokanee comprise the bulk of kokanee numbers in Island Park Reservoir despite stocking efforts. Research conducted by the Henrys Fork Foundation has documented that suitable summer habitat is limiting. While cold water with suitable temperatures is present in summer, it's found below the thermocline and is anoxic. Conversely, oxygenated water is present but located above the thermocline where temperatures are unsuitable for salmonids. These habitat limitations appear to restrict available habitat from mid-June through September. Efforts to increase suitable summer habitat for trout and kokanee in Island Park Reservoir should be prioritized over the course of this plan.

Island Park now supports the third pelican breeding colony in Idaho. This colony was first documented in 2011 although pelicans frequented the Island Park area for decades prior. Colony size has increased, temporarily becoming the second-largest breeding colony in Idaho in 2017 and prompting concern for impacts on fish resources by professionals and the public. Beginning in 2018, the Department implemented a hazing program to limit nesting pelicans to no more than 150 nests. Efforts since 2018 have met with mixed success, with documented nests ranging from 0 to over 300 annually, fluctuating above and below the 150 nest objective prescribed in the 2016-2025 Pelican Management Plan (IDFG 2016). The effect of pelicans on local trout populations should be further assessed in order to address continuing concerns by anglers and inform future management efforts.

From Island Park Reservoir upstream to the Henrys Lake Outlet, the Henrys Fork provides a harvest-oriented fishery supported primarily by hatchery catchable Rainbow Trout, with some additional natural production of both Rainbow Trout and Brook Trout. Population surveys have indicated the occurrence of large Rainbow Trout in the river above Island Park Reservoir in early May. These fish are presumably spawning migrants from Island Park Reservoir. However, electrofishing surveys in late May suggest the majority of the migrants return to the reservoir prior to the historical opening weekend of fishing season and are largely unavailable to anglers in the upper river. Beginning in 2002, the Department began stocking Yellowstone Cutthroat fingerlings in this reach of river with the intent of creating a later run of spawning fish from Island Park Reservoir. While initial monitoring results via electrofishing showed promise, the program was ultimately unsuccessful and is likely tied to limited suitable habitat in Island Park Reservoir during summer. Stocking of fingerling Cutthroat Trout has been discontinued in this reach. Since 2011, anglers can fish this reach of the river all year long and have the ability to encounter any migratory fish originating in Island Park Reservoir. Following this season extension, complaints by anglers about poor fishing have been reduced, but the Department should continue to monitor wild trout trends, hatchery fish utilization, and angler satisfaction in this reach of river over the course of the plan.

Henrys Lake Outlet is a low gradient stream reach which flows through an intensively used, privately owned cattle grazing area. Fluctuations in instream flows below Henrys Lake can impact habitat availability and quality as well as the trout fishery in this area. Angler effort is concentrated below Henrys Lake Dam downstream to Highway 20. During years of above normal discharge from Henrys Lake, trout entrainment from Henrys Lake supports a very popular fishery. Cutthroat Trout spawning in the three miles below Henrys Lake Dam is very visible to anglers and extensive angler effort during April and May can occur. Depending on outflow from Henrys Lake, summer flows and water temperatures may result in emigration of trout from the upper reaches of the Outlet downstream to the Henrys Fork. Additionally, low winter stream flows occasionally result in dewatering in the upper reach of Henrys Lake Outlet. Several miles of the Henrys Lake Outlet have been channelized in an effort to improve water conveyance to lower river water users. Efforts by private conservation groups have restored portions of the Henrys Lake Outlet to the natural stream channel, thereby reducing erosion and sediment delivery from the channelized reach. Efforts to reduce sediment inputs and stabilize banks should continue and coordination with the North Fork Canal Company should be an emphasis to manage water releases out of Henrys Lake in a manner that minimizes bank stress, erosion, and sediment transport. There is potential for a small boat ramp somewhere around the Highway 20 Bridge to facilitate recreational use along the Outlet, which would help spread the abundant summer crowds to new waters.

Henrys Lake is a shallow, highly productive lake covering 6,075 acres in the headwaters of the Henrys Fork Snake River. It has a long history of supporting high quality sport fishery for large, native Yellowstone Cutthroat Trout. Since 1924, the Department has collected Yellowstone Cutthroat Trout eggs for maintaining Yellowstone Cutthroat Trout fisheries in many areas of the state, including Henrys Lake. Additionally, Henrys Lake produces large Brook Trout, including the state record of 7 pounds, and has a robust fishery of hybrid trout (Cutthroat x Rainbow).

Henrys Lake has been managed as a quality or trophy trout water since 1976. Size objectives are 20% of hybrid trout over 20 inches, 10% Cutthroat Trout over 20 inches and 5% of Brook Trout over 17 inches. Prior management plans have suggested this size objective should be based on fish harvested by anglers. However, due to the variability in angler harvest preferences, size objectives measured from gill-net catch are more reflective of the at-large population and should be the measure used to evaluate this objective. Additional research has shown that we should expect years when we cycle between meeting and not meeting size objectives. Henrys Lake produces large Brook Trout including the state record of 7 lbs. Efforts to improve natural production in tributaries date back to 1981, when cooperative agreements between the Department, the Henrys Lake Foundation, and area ranchers were developed to improve riparian and in-stream spawning and rearing habitat through protective fencing of spawning tributaries. A significant contribution to that effort was made in 2005, when marginally passable culverts on Targhee and Howard creeks were replaced with bottomless arch bridges to facilitate fish passage. Results from 2006 trapping efforts documented increases in natural recruitment from Targhee Creek as a result of this effort, although consistent wild recruitment hasn’t been substantial to date. Fish losses to irrigation ditches have been reduced by cooperative diversion screening projects. Riparian fence and screen maintenance will continue on Duck Creek, Howard Creek, Targhee Creek, and Kelly Springs, and evaluations of trout recruitment, life history strategies, and influence of cold water inputs from these spawning tributaries should continue to be a focus in future years. Stream habitat improvement projects in Henrys Lake tributaries are continuing through the duration of this plan. Efforts should be made to quantify the impact of habitat improvement projects on Henrys Lake and tributary water quality, wild trout juvenile production, and recruitment of wild Cutthroat Trout to the lake’s fishery. Additionally, it may be warranted to investigate factors affecting recruitment of wild Cutthroat Trout juveniles.

Historically, the Department has attempted to quantify the contributions of wild trout production to the Henrys Lake sport fishery. This would allow managers to better adjust stocking rates to get closer to meeting management objectives. Beginning in 2017, fin clipping was replaced by Parental Based Tagging (PBT) as a tool to mark hatchery fish and assess abundance. This approach results in near complete identification of wild- versus hatchery-origin trout and eliminates error associated with only marking 10% of hatchery fish.

Analysis of catch rates and fish stocking data from 30 years show angler catch rates are driven by the number of fish stocked 2-3 years previously. However, a similar analysis between stocking rate and fish size shows some decrease in growth with very high levels of stocking. Based on the interdependent relationships between stocking rate, angler catch rates, and mean size, an annual Cutthroat Trout stocking target of 1.3 million fingerlings to optimize the fishery is appropriate. This was initiated in 2003 and should continue to be evaluated in future gill-net and creel surveys. Based on population and growth trends observed during gillnetting, stocking was reduced in 2012 to 750,000 Cutthroat Trout. As population trends became more balanced in 2015, stocking rates were increased to 1 million Cutthroat Trout annually but remain below the suggested 1.3 million fish. While in theory an adaptive stocking strategy based on gill-netting efforts, growth measures, and angler catch rates is attractive, environmental variability effects on stocked fish survival regularly negate or over-emphasizes any year-to-year adjustments of stocking such that use of fixed stocking numbers (1.3 million fingerling Cutthroat Trout) is most appropriate. The relevant environmental factors affecting trout recruitment are currently unknown. With an observed trend of earlier ice off dates, warmer summer temperatures, increased biological loading (algae blooms) and low winter dissolved oxygen, research and monitoring efforts should be focused of identifying how these factors and others may be influencing fingerling mortality for both naturally- and hatchery-produced fish over the duration of this plan.

Since 1998, the Henrys Lake Cutthroat x Rainbow Trout hybrid trout fishery has been provided entirely by the production and stocking of sterile hybrid trout to protect the genetic integrity of the Cutthroat Trout population. Sterile hybrid trout (approximately 200,000) have been stocked annually since 1998. Based on angler catches, survival and growth of fingerlings are comparable to fertile hybrids. Creel surveys have documented many hybrid trout exceeding ten pounds. Genetic surveys of the Henrys Lake Cutthroat Trout population have documented a modest level of Rainbow Trout introgression (14%) and low level of back-crossing (10%) for Yellowstone Cutthroat Trout in the lake. The Department evaluated stocking of a hybrid trout created using Gerrard Rainbow Trout crossed with Yellowstone Cutthroat Trout but discovered that Gerrard-cross hybrid performance was less than the normal Hayspur-strain hybrid regarding hatchery survival as well as growth in the lake. Hayspur-strain hybrids have continued to be used since this evaluation. However, the timing of release of hybrids has recently been changed from fall to spring stocking. This time of release impact on fingerling growth and survival should be evaluated during this plan.

Brook Trout stocking was discontinued in 1999 as part of a statewide reduction in hatchery production. It was also believed that natural reproduction would be sufficient to maintain suitable catch rates. However, by 2002, the lack of recruitment to the Brook Trout fishery was evident, and fin-clip analysis demonstrated that the Brook Trout fishery was based almost entirely on hatchery supplementation. An on-site angler opinion survey in 2002 demonstrated the strong public desire to maintain the Brook Trout fishery in Henrys Lake. Brook Trout stocking was re-implemented in 2003 with the use of sterile fish. Angler creel and gill-net data have demonstrated good survival and recruitment of the sterile fingerlings. Interestingly, a recent hatchery versus wild origin study was conducted on Brook Trout using genetics to identify ploidy levels for fish caught during spring gill-net surveys. In 2023, the majority of Brook Trout caught in gillnets were fertile, wild-origin fish which differs from the fin clip study conducted 20 years prior. Current stocking rates are providing a high catch rate fishery of quality Brook Trout. Shortfalls in hatchery Brook Trout availability in 2015 and 2016 caused Brook Trout abundance in gill-netting surveys to decline. Increased production in 2017 resulted in bringing Brook Trout catch rates and angler satisfaction back up, and current stocking requests have remained at 100,000 Brook Trout. Recent research on Cutthroat Trout growth rates in Henrys Lake documented a negative relationship between Cutthroat Trout growth and abundance of Brook Trout and Utah Chub. However, this same study concluded that Henrys Lake Cutthroat Trout growth rates in recent decades are as fast or faster than earlier time periods, so negative impacts from Brook Trout and Utah Chub abundance have been minor.

Utah Chub were discovered in Henrys Lake in 1993 during annual gill-net surveys. Utah Chub are viewed as a potential nuisance species as they have been shown to negatively impact trout populations in other waters through competition for food. Gill-net surveys from 1993 to 2024 indicated an increasing trend in chub numbers. Based on trends in trout growth rates and condition factor, and the research project mentioned above, there is no clear evidence that the chub population, at its current density, is having a substantial impact on the Henrys Lake trout community. Stable isotope analysis shows that trout and chub generally consume different food resources, and a Department telemetry research project documented Utah Chub and Cutthroat Trout generally utilize different habitats in Henrys Lake except for short durations in early summer. Diet analysis conducted over the past decade shows that while trout and chub do consume some similar prey items, this overlap is minimal. Given the observed trends in abundance, results from previous studies, and continued concern over impacts of Utah Chub on trout growth, the Department should continue to monitor chub abundance and revisit potential impacts over the coming period.

Warm River is a major tributary to Henrys Fork, providing catch rates of 1.0 trout per hour or better. Warm River base flow is provided by large springs six miles upstream from its confluence with the Henrys Fork. Warm River has large reaches of good spawning gravel and fairly constant temperatures, which make it ideal for trout spawning and rearing. Rainbow Trout and Brown Trout migrate from the Henrys Fork to spawn in Warm River during spring and fall. Due to limited spawning habitat in Henrys Fork between Ashton Dam and Mesa Falls, Warm River is critical to the maintenance of wild Rainbow Trout and Brown Trout populations for this reach of the Henrys Fork. Due to the strong catch-and-release ethic practiced by many anglers fishing the Henrys Fork and Warm River, seasonal closures are no longer necessary to protect trout populations in this area. The season was extended in 2011 and now provides additional angling opportunity year-round.

The Fall River is the largest Henrys Fork tributary. The Fall River is managed under a split season (catch and release from Dec 1 through Memorial Day Weekend, then a two-fish limit with no harvest of Cutthroat Trout) and supports an excellent wild Rainbow Trout fishery with catch rates of 1.0 fish/hour or better. The lower reach of the river is seasonally degraded by irrigation and hydroelectric power generation water withdrawals. The remainder of the drainage is in good condition, although naturally low flows and warm temperatures during the summer may limit adult trout abundance. Population estimates through the 2020s indicate an abundance of juvenile Rainbow Trout, and a lack of adults. Anecdotal information from anglers indicates fish over 16 inches are common through early June, suggesting the Fall River supports a run of spawning Rainbow Trout from the Henrys Fork. A telemetry study conducted in 2017 found that adult Rainbow Trout from the Vernon reach of the Henrys Fork migrate into the Fall River to spawn, before returning to the Henrys Fork. As such, the connection between the two rivers is important for both rivers.

Objectives and Strategies

1. Objective: Maintain quality trout fishing in the Henrys Fork from the South Fork confluence upstream to Riverside Campground.

   Strategy: Monitor trout populations in indicator reaches by electrofishing on a regularly scheduled basis and propose regulation changes as biologically and socially appropriate.

Strategy: Work with partners and stakeholders to improve fish passage and minimize entrainment as supported by life history and migration assessments.

Strategy: Work with partners and stakeholders to obtain biologically protective stream flows for fish and understand how managed aquifer recharge activities will affect fish populations. Only allow new water right diversions when flows in the Henrys Fork measured at the St. Anthony gauge (USGS 13050500) reach or exceed 1,000 cfs.

Strategy: Identify factors that may be affecting mountain whitefish abundances, and address as possible.

2. Objective: Improve angler access to Ashton Reservoir.

Strategy: Work with partners to secure winter-appropriate angler access to Ashton Reservoir as possible.

2. Objective: Sustain a satisfactory fishing experience in the Henrys Fork on the catch-and-release reach from Riverside Campground upstream to Island Park Dam.

Strategy: Continue long-term monitoring of trout population and angling success through regularly scheduled sampling surveys.

Strategy: Work for stream flow protection, focusing on flow enhancements that optimize juvenile trout survival, especially during winter, and water quality.

3. Objective: Manage the Henrys Fork above Island Park Reservoir for satisfactory and diverse angling opportunity.

Strategy: Evaluate stocking practices, size at stocking and frequency of stocking to maximize the angling experience.

Strategy: Monitor and evaluate the impacts of foraging pelicans and cormorants on hatchery and wild trout resources and implement actions to reduce impacts where necessary.

Strategy: Work for biologically meaningful habitat, water quality, and stream flow protection and enhancement.

4. Objective: Produce and maintain a quality, consumptive salmonid fishery in Island Park Reservoir.

Strategy: Work towards reservoir tributary habitat, stream flow, and water quality protection and enhancement.

Strategy: Work to improve suitable summer trout habitat in Island Park Reservoir relative to temperature and dissolved oxygen to increase survival of trout and kokanee.

Strategy: Assess the potential to monitor impacts of pelicans on local recreational fisheries and management alternatives to address impacts. Implement actions as available and necessary to minimize negative effects in accordance with the pelican management plan (IDFG 2016).

Strategy: Work with partner agencies and conservation organizations to mitigate or alleviate impacts to the trout population from pelican predation.

5. Objective: Identify factors contributing to mortality of juvenile and adult trout in Henrys Lake, and address as possible.

   Strategy: Implement water quality monitoring program to gather data on potential factors influencing trout survival, algae blooms, and other basic water quality parameters critical to fingerling and adult trout survival.

   Strategy: Evaluate stocking methods relative to factors affecting juvenile survival and recruitment to the fishery.

   Strategy: Monitor the abundance and impacts of Utah Chub population on the trout fishery and evaluate management strategies to minimize negative impacts of chubs, should impacts become substantial.

6. Objective: Continue to manage the Henrys Lake fishery using brood fish from the lake in such a manner to limit introgression and genetic integrity of the Yellowstone Cutthroat Trout population.

   Strategy: Continue to refine and implement the Henrys Lake sterile hybrid trout program.

   Strategy: Continue regular genetic monitoring of the Henrys Lake Cutthroat Trout population and cull brood or eggs/fry accordingly.

   Strategy: Continue to work with the Henrys Lake Foundation and others to screen irrigation diversions, fence riparian areas, and restore connectivity in tributary reaches.

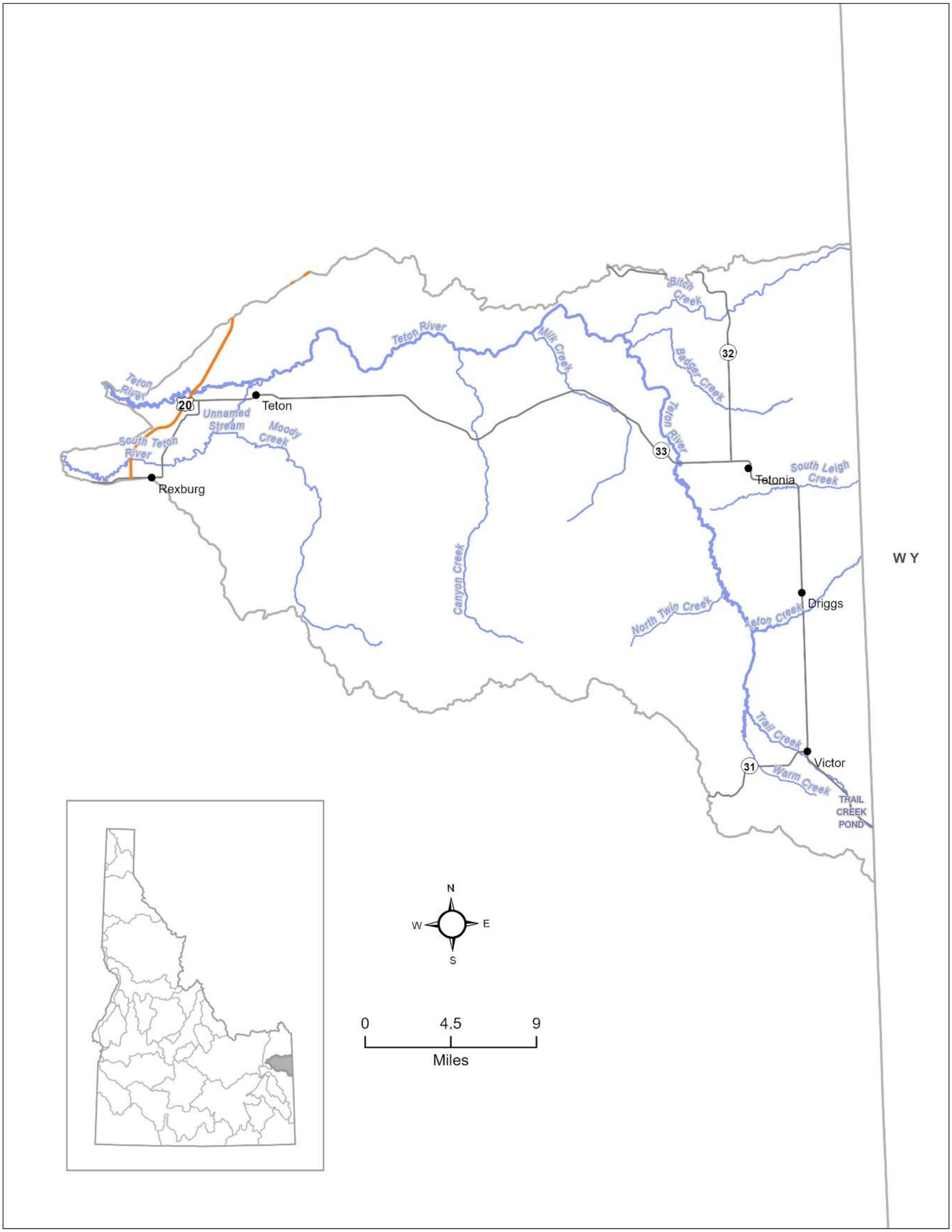
   Strategy: Enhance riparian area and habitat conditions in Henrys Lake tributaries to provide cold-water refugia and cold-water inputs into Henrys Lake, work to enhance contributions from wild-origin Yellowstone Cutthroat Trout from these tributaries, and implement the Yellowstone Cutthroat Trout Management Plan (IDFG 2007a).

Drainage: Henrys Fork Snake River				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
Mouth to St. Anthony (35 miles)	Rainbow Trout Brown Trout Cutthroat Trout Whitefish Green Sucker Least Chub	Wild/natural Native Native Native	Quality Quality	Continue to monitor and evaluate whitefish populations and address limiting factors. Monitor distribution and ecology of Green Sucker in drainage. Monitor the distribution and ecology of Least Chub in drainage. Whether Least Chub are native is a current topic of ongoing research within the drainage.
St. Anthony to Ashton Dam (15 miles)	Rainbow Trout Brown Trout Cutthroat Trout Whitefish Green Sucker	Wild/natural Native Native	Quality Quality	Continue to improve fish passage and minimize entrainment. Monitor whitefish populations and address limiting factors. Continue to improve fish passage and minimize entrainment. Monitor whitefish populations and address limiting factors. Monitor distribution and ecology of Green Sucker in drainage
Ashton Dam to U.S. 20 Bridge (4 miles/400 acres)	Rainbow Trout Brown Trout Yellow Perch Whitefish Green Sucker	Hatchery-supported Wild/natural Native Native	Yield General Quality	Stock catchable Rainbow Trout to maintain high catch rates. Monitor distribution and ecology of Green Sucker in drainage
U.S. 20 Bridge to Riverside Campground (37 miles)	Rainbow Trout Brown Trout Cutthroat Trout Whitefish Green Sucker	Wild/natural Native Native	Quality Quality	Maintain as wild trout fishery with year-round season. Monitor distribution and ecology of Green Sucker in drainage
Riverside Campground to Island Park Dam, except Harriman State Park (9 miles)	Rainbow Trout Whitefish	Wild/natural Native	Trophy Quality	Maintain wild Rainbow Trout fishery, and work with irrigation community and partners to optimize winter flows.
Harriman State Park (8 miles)	Rainbow Trout Whitefish	Wild/natural Native	Trophy General	Fly fishing only as access stipulation.

Island Park Reservoir (up to McCrea Bridge) (7,280 acres)	Rainbow Trout Kokanee Cutthroat Trout Whitefish Brook Trout	Hatchery-supported Native Wild/natural	General General Yield	Provide a put-and-grow fishery for Rainbow Trout and kokanee. Supplemental catchable Rainbow Trout stockings. Improve summer habitat suitability for salmonids. Mitigate impacts incurred due to predatory birds.
McCrea Bridge to Henrys Lake Outlet (9 miles)	Rainbow Trout Brook Trout Cutthroat Trout Whitefish	Hatchery-supported Wild/natural Native	General Yield Quality	Provide a put-and-take fishery for catchable Rainbow Trout.
Henrys Lake Outlet (15 miles)	Cutthroat Trout Whitefish Hybrid Trout Rainbow Trout Brook Trout	Native Wild/natural Wild/natural	Quality Quality Yield	Work collaboratively to improve habitat that will sustain a perennial fish population.
Henrys Lake (6,080 acres)	Cutthroat Trout Hybrid trout Brook Trout	Native Hatchery supplemented Hatchery supplemented	Trophy Trophy	Stock Cutthroat Trout produced for wild parents from Henrys Lake. Stock sterile Cutthroat x Rainbow Trout hybrid trout and sterile Brook Trout to diversify fishery. Identify and address limiting factors on trout to improve survival.
Henrys Lake Tributaries (13 miles)	Cutthroat Trout Brook Trout	Native Wild/natural	Quality Yield	Implement focused habitat improvement projects to improve cold-water refugia and cold-water input to Henrys Lake. Manage for spawning and rearing of wild-origin Cutthroat Trout. Continue irrigation ditch screening and riparian fencing program. Improve fish passage and stream connectivity, and implement Yellowstone Cutthroat Trout Management Plan (IDFG 2007a).
Warm River and tributaries (50 miles)	Rainbow Trout Brook Trout Brown Trout Cutthroat Trout Whitefish	Hatchery supplemented Wild/natural Wild/natural Native	General Yield General Quality	Maintain wild trout population. Provide put-and-take fishery in heavily fished areas of Warm River. Maintain high catch rates. Maintain fish observation area between the mouth of Robinson Creek and the Highway 47 bridge (0.2 miles).
Robinson Creek and tributaries (25 miles)	Rainbow Trout Brown Trout Brook Trout Cutthroat Trout Whitefish	Wild/natural Wild/natural Native	General Yield Quality	Maintain wild trout population.

Buffalo River and tributaries (10 miles)	Rainbow Trout Brook Trout	Wild/natural Wild/natural	General Yield	Manage for wild trout.
Moose Creek and tributaries (20 miles)	Rainbow Trout Brook Trout	Wild/natural Wild/natural	General Yield	Manage for wild trout.
Sand Creek WMA (167 acres)	Rainbow Trout Brook Trout	Hatchery-supported Wild/natural	General Yield	Maintain high catch rates.

31. Teton River Drainage



Overview

The Teton River originates on the west slope of the Teton Mountains and drains 890 square miles to its confluence with the Henrys Fork near Rexburg. The Teton River in eastern Idaho provides an important coldwater fishery for anglers. It is one of the few remaining rivers in the greater Yellowstone ecosystem that support native Yellowstone Cutthroat Trout. Also pursued by anglers are Rainbow Trout, Brook Trout, Brown Trout, and Mountain Whitefish. The fishery enjoys regional, if not national, acclaim that supports a growing tourism economy in the local area. The presence of generally high-quality habitat, relative abundance of native fish, and relative health of this drainage combined with input from our angling public make managing for native fish a high priority for this drainage.

The Teton River has been managed as a wild trout fishery since the early 1990s. Prior to that, the fishery was supplemented annually with both fingerling Cutthroat Trout and catchable Rainbow Trout. Fingerling stocking was discontinued in 1992 and catchable Rainbow Trout stocking was discontinued in 1994. The Cutthroat Trout fishery has been managed with increasingly restrictive regulations since 1990, when a slot limit was implemented. However, Yellowstone Cutthroat Trout continued to decline, and, during 2006, harvest of Cutthroat Trout was eliminated in the Teton River and its tributaries. In 2015, the bag limit for Rainbow Trout was removed, allowing unlimited harvest. Tributaries are now managed with year-round fishing with the exception of a closure during spawning for the month of June. All other game fish in the drainage are managed under general regulations.

The most profound anthropogenic factor associated with the Teton River and its fishery was the construction and subsequent collapse of the Teton River Dam. The BOR built Teton Dam in 1975 to provide irrigation water and for flood control. The reservoir pool inundated 43 miles of the Teton River up through the scenic Teton River canyon as well as several kilometers of lower Canyon Creek, an important Cutthroat Trout spawning tributary. On June 5, 1976, the dam failed when the reservoir was nearly full, irreversibly altering the fluvial habitat and the fishery through the canyon and lower river. Preliminary evaluations of the conditions (both terrestrial and aquatic) in the Canyon have been made, but more in-depth evaluations and a restoration plan should be developed to address habitat improvement opportunities and the limiting factors affecting fish and other wildlife within the Canyon. Restoration activities should be implemented where biological gains are expected as time and funding allow.

The Teton River can be described as three separate reaches: the lower river, the canyon reach, and the valley reach. The lower Teton extends from the Henrys Fork Snake River confluence upstream 23 miles (via the South Fork) or 32 miles (via the North Fork) to the Teton Dam site northeast of Newdale. The river splits into the North and South Forks approximately midway. Both forks flow downstream to a separate confluence with the Henrys Fork Snake River. Fish habitat in the lower Teton has been extensively degraded with agriculture development with deposition and channelization during and after the Teton Dam collapse, and with post-flood reconstruction of the stream channels and diversion structures. Complete dewatering of the stream channel, particularly in the North Fork Teton River, causing fish kills is common in this reach. However, native Yellowstone Cutthroat Trout can still be found in this reach of the river, and the potential for habitat improvement projects, fish passage projects, and increased access for the angling public should be prioritized over the course of this plan. Recently, changes and additions to the fish community in the lower Teton River have been observed. Brown Trout have been increasing in abundance and compose a higher proportion of the fish community; and a newly identified species, Least Chub, resides in this reach of river. Green Sucker are also observed in this reach with the fish trap on the South Fork Teton River. The majority of adult Green Sucker observations in the state are regularly made at the Rexburg City Ditch. This is the only diversion with fish passage. Despite the degraded habitat and fish passage issues in the lower Teton River, a quality trout fishery with Cutthroat Trout exists.

The Canyon reach extends from the Teton Dam site upstream to Harrops Bridge. Within this reach is the Felt Dam Hydropower project located just upstream of Badger Creek which has a diversion dam, fish ladder, and fish screens on the hydropower intake. Felt Dam was constructed in the 1920s and a fish ladder was added in the 1980s when the project was originally federally licensed. The Felt Hydroelectric Project is currently going through the FERC relicensing process and multiple studies and mitigation actions have been proposed and may be conducted. Because of the potential adverse interactions with non-native fish species, particularly Rainbow Trout, any alteration to the fish passage structure at Felt Dam should retain the ability to trap upstream migrants to allow for selective passage. Additionally, any studies or mitigation efforts put into effect relative to the Felt Project should be monitored to assess the impact on native Yellowstone Cutthroat Trout and non-native Rainbow Trout. These assessments should be conducted both upstream and downstream of Felt Dam. The fishery in the Canyon reach was severely and permanently degraded by the collapse of Teton Dam, which resulted in the loss of a unique cottonwood floodplain, dark timbered hillsides, and a channel type that was relatively easy to access, float, and fish by general anglers. Prior to the construction and collapse of the Teton Dam in 1976, the river supported a trout fishery with an overall catch rate of 1.31 fish/hour and a total catch of 7,600 fish in 1975. The trout fishery in the Teton canyon has declined markedly in the 25 years following the Teton Dam collapse. Total catch in the Teton canyon had declined to 4,000 fish by 2000. The decline came despite the shift to wild trout management, special protective regulations, and catch and release fishing. During the same time, the harvest rate declined from 0.95 to 0.07 fish/hour, and total harvest declined from about 6,200 to 127 fish. This decline may reflect a decrease in the population due to major changes in Teton River hydrology and geomorphology – the primary driver of stream structure and function – that was caused by the dam collapse. Alternatively, the decline may more likely be associated with the difficulties of accessing and navigating this reach.

There are a variety of access types that connect anglers to limited places in the Canyon. The Spring Hollow access site was upgraded in 2018, providing excellent access in the middle part of the Canyon where boat anglers can launch and float to the Teton Dam access site which was also improved in 2018. The upper part of the Teton Canyon reach is more difficult to access. Anglers must either slide their boats down the Bitch Creek slide, which is a rough, primitive and difficult access, or carry their gear and equipment down an access road (closed to motorized use) to the Felt Hydropower plant. Neither option is easy, which limits the amount of use the upper Canyon receives. The BOR has finalized a Resource Management Plan in which they describe their intent to provide only minimal upgrades and improvements to existing access points. Keeping this reach difficult to access - particularly the upper half of the Canyon - will limit angler use and provide a lightly used resource in a drainage with high fishing effort. With relatively easy access from Spring Hollow to Teton Dam and difficult, yet possible, access from Felt Dam to Spring Hollow, a variety of access types and user experiences are now possible in Teton Canyon. Further improvements to access in the upper reaches of the canyon would likely affect the user experience.

The upper Valley reach extends from Harrops Bridge upstream 27 miles to the confluence of Little Pine and Warm creeks west of Victor. The entire reach is low gradient and meandering. Although there are no dams or irrigation diversions on the main river, habitat quality had been reduced as a result of livestock grazing, heavy sedimentation, and widening of the stream channel. Numerous habitat improvement projects have been implemented in the Valley by the Department and partners, and resulting in improvements to riparian vegetation, sediment loads, and width-to-depth ratios. Opportunity for improvements still exists, but recent population surveys document Cutthroat Trout densities similar to or slightly higher than the 1980s suggesting that environmental conditions and habitat improvement projects are having an effect on trout in the Teton River. The Yellowstone Cutthroat Trout population in the Teton Valley increased from about 40 to 55 fish/hectare after special regulations were implemented in 1990, but then decreased to about 20 fish/hectare from 1995 to 2000. By 2003, the population had collapsed to less than 2 fish/hectare. Since 2003, Cutthroat Trout populations have maintained, and in many cases, increased their abundance in recent years. Although the Teton drainage is managed under wild trout rules, the Department will consider supplemental hatchery releases of sterile trout on a case-by-case basis where fish populations have been impacted. Transfers from wild populations or conservation aquaculture may be considered where substantial habitat restoration projects have resulted in newly created habitat becoming available.

While Cutthroat Trout numbers have increased in the Valley since the historic lows of 2003, non-native trout species including Rainbow Trout, Brook Trout, and Brown Trout have also been increasing in abundance which are negatively impacting Cutthroat trout through introgression, competition, and predation. The recent change in distribution and abundance of Brown Trout is particularly notable. While Brown Trout have been observed occasionally in Teton Valley since the mid-1990s, they are now regularly observed during fish population surveys and are increasingly caught by anglers. During 2024, an eDNA study will be conducted to help identify the current distribution of this non-native species. A previous eDNA research project conducted by Friends of the Teton River suggested Brown Trout were widespread throughout the main river and starting to occur in tributaries. The Department will continue to regularly survey the Teton River and work with conservation partners to monitor the extent of Brown Trout expansion and evaluate potential impacts to Yellowstone Cutthroat Trout. If Brown Trout are linked to declines in Cutthroat Trout populations, staff will develop a suite of management alternatives to prevent further declines in native Cutthroat Trout in the Teton Valley.

Another recent but significant change in the Valley has been the amount of recreational floater use and associated conflicts with anglers. The rapid increase in recreational floaters has exacerbated crowding on the river, congested access sites, limited parking, and reduced the overall user experience. Commercial activity supporting recreational floating has also increased. Complaints from both the angling and non-angling public ultimately led to Teton County implementing a river recreation ordinance in 2022 which limits the group size of floaters on the river and as well as the number of commercial businesses providing livery service transporting people and watercraft to and from the river. The Department is working collaboratively with Teton County to address the increased use by recreational floaters and working to manage Department properties and access sites in accordance with the Department’s mission and purpose for which the properties were purchased or developed. Monitoring impacts of increased use of the river on fish populations and angler satisfaction should be prioritized over the course of the plan.

The changing demography of the Teton Valley has resulted in decreased habitat degradation associated with traditional land use impacts, such as cattle grazing. However, the rapid pace of development, much of it associated with riparian areas and private ponds, has offset much of the benefit to the ecosystem. The fast pace of development has also resulted in vocalization about crowding concerns on the river, particularly with the onset of non-traditional recreational use such as pleasure floating. Currently, the most common complaint on the Teton River through the Valley is the amount of use the river is receiving, and conflicts between traditional users (anglers) and recreational floaters. Conservation organizations such as the Friends of the Teton River and The Teton Regional Land Trust have been instrumental in developing collaborative efforts to protect and restore important riparian and aquatic habitat in the valley.

As agriculture and ranching developed in Teton Valley, associated irrigation negatively impacted native Cutthroat Trout. Irrigation and its infrastructure reduced streamflows, entrained fish into canals, and blocked migratory life cycles fragmenting trout populations. A hydrologic assessment of the drainage by Idaho State University indicates that the hydrologic regime has shifted with irrigation practices in the past century. Prior to irrigation the river was a snowmelt dominated system, exhibiting a pronounced peak associated with spring runoff. With the implementation of flood irrigation using surface flows from tributaries the hydrology shifted to a groundwater dominated system, characterized by the absence of a pronounced peak. Diversion dams on most tributaries disconnected the river from seasonal snowmelt runoff, contributing to the shift to a groundwater-dominated watershed, and also disconnected the Cutthroat Trout population from major spawning tributaries. In recent years, conversion from flood irrigation to sprinkler irrigation has restored some of the natural shape to the hydrograph; however, the system is still groundwater dominated. The hydrologic shift has likely played a significant role in the fish population characteristics. Concurrent research by Idaho State University demonstrates that, in general, native Yellowstone Cutthroat Trout dominate fluvial systems characterized by their natural snowmelt dominated hydrology, whereas Rainbow Trout are found in greater abundance in systems with a dominant groundwater influence.

Long-term persistence of the fluvial Yellowstone Cutthroat Trout population likely depends on successful restoration of the natural hydrology and improving fish passage and connectivity. Yellowstone Cutthroat Trout will benefit from a naturally shaped hydrograph and increased magnitude and duration of tributary flows, restoring connectivity to tributaries when threats of non-native species expansion are non-existent, as well as protection of the few remaining streams that demonstrate this natural hydrograph such as Bitch Creek. While the high elevation of the Teton Range favors snowpack levels relative to nearby watersheds, the timing of runoff and impact of rain on snow events is affected by climate change with trend towards earlier runoff as well as an overall decrease in the amount of snow water equivalent. Climate change and changing irrigation practices have negatively affected water levels in the aquifer. Recently, efforts to engage in managed aquifer recharge are on the rise. The intent of these efforts is to increase viability by farmers and agricultural producers by increasing aquifer levels which would also benefit the aquatic system in late summer by enhancing base stream flows and decreasing temperatures. Aquifer recharge can be accomplished in many ways but is most easily done in the Valley by returning to flood irrigation early in the year and using sprinkler systems as summer progresses. This trend may move away from a more naturally shaped hydrograph and may impact native fish populations if diversions affect fish passage during spawning migrations or stream connectivity. These shifts in water usage in the Valley should be monitored over the course of this plan.

The Department will continue to work with conservation organizations and partner agencies on such efforts to improve fish access to spawning and rearing habitat, and to restore the natural hydrology to improve the fluvial Cutthroat Trout population. The Department will also prioritize habitat restoration that benefits Cutthroat Trout in the Teton Drainage. The Department will continue to monitor the success of the management program in conserving the native Cutthroat Trout resource and meeting public angling expectations.

Objectives and Strategies

1. Objective: Preserve genetic integrity and population viability of native Cutthroat Trout.

Strategy: Do not stock or allow stocking of streams, lakes or ponds with other species of fish that would interbreed with Cutthroat Trout.

Strategy: Work to obtain special consideration, protection, and improvement of important Cutthroat Trout habitat and natural flow regimes in land-use decisions.

Strategy: Consider conservation stocking of Cutthroat Trout in areas where habitat restoration has occurred to bolster natural production and use of newly restored habitat.

Strategy: Work with local partners and Wyoming to identify opportunities to remove non-native source populations of nonnative trout, particularly in tributaries, and establish climate-resilient refugia for native Cutthroat Trout.

Strategy: Continue to monitor genetic status of wild Cutthroat Trout populations.

Strategy: Continue regular population monitoring to evaluate Brown Trout expansion and potential effects to Cutthroat Trout.

Strategy: Continue efforts to inform the public about the threat of non-native trout and encourage anglers to harvest non-native species to benefit Yellowstone Cutthroat Trout conservation efforts.

2. Objective: Restore natural hydrology and connectivity in locations where expansion of undesirable non-native trout species is not a concern to improve spawning, rearing, and migration success of Yellowstone Cutthroat Trout

   Strategy: Prioritize summer flow and fish connectivity in Canyon Creek to improve Yellowstone Cutthroat Trout abundance in this tributary and the main Teton River in the Canyon reach.

   Strategy: Minimize loss of juvenile fish to irrigation diversions and tributary dewatering where these losses are deemed to be having a population-level impact.

   Strategy: Evaluate options to manage water more effectively in the lower Teton resulting in a reduction or elimination of dewatering events in this area.

3. Objective: Minimize impacts of land use and development on fish habitat and water quality.

   Strategy: Survey mainstem Teton River and important tributaries; develop prioritized list of areas in need of habitat improvement or fish passage. Implement restoration projects as possible.

   Strategy: Educate and negotiate with local irrigators for minimum stream flows when possible. Coordinate with IDWR on water issues that potentially impact water rights.

   Strategy: Ensure restoration of habitat or mitigation of habitat loss whenever possible.

4. Objective: Increase consumptive trout fishing opportunity for anglers near population centers.

Strategy: Continue to stock fishing ponds adjacent to the Teton River at a rate to provide high, consistent catch rates.

Strategy: Provide harvest opportunity by stocking sterile hatchery trout. Sterile Rainbow Trout may be a viable alternative in select locations to meet some harvest demand while still protecting native fish populations.

Strategy: Educate and negotiate with local irrigators for minimum stream flows when possible. Coordinate with IDWR on water issues that potentially impact water rights.

5. Objective: Improve fish passage where beneficial and feasible.

   Strategy: Identify and obtain passage around irrigation diversions in cooperation with local irrigators, partner agencies, and conservation organizations in locations where invasion by non-native trout is not a biological concern.

   Strategy: Continue to operate and maintain the South Fork Teton fish ladder; seek out ways to improve fish use of this ladder.

   Strategy: Identify barriers and obtain passage through road culverts and other blockages.

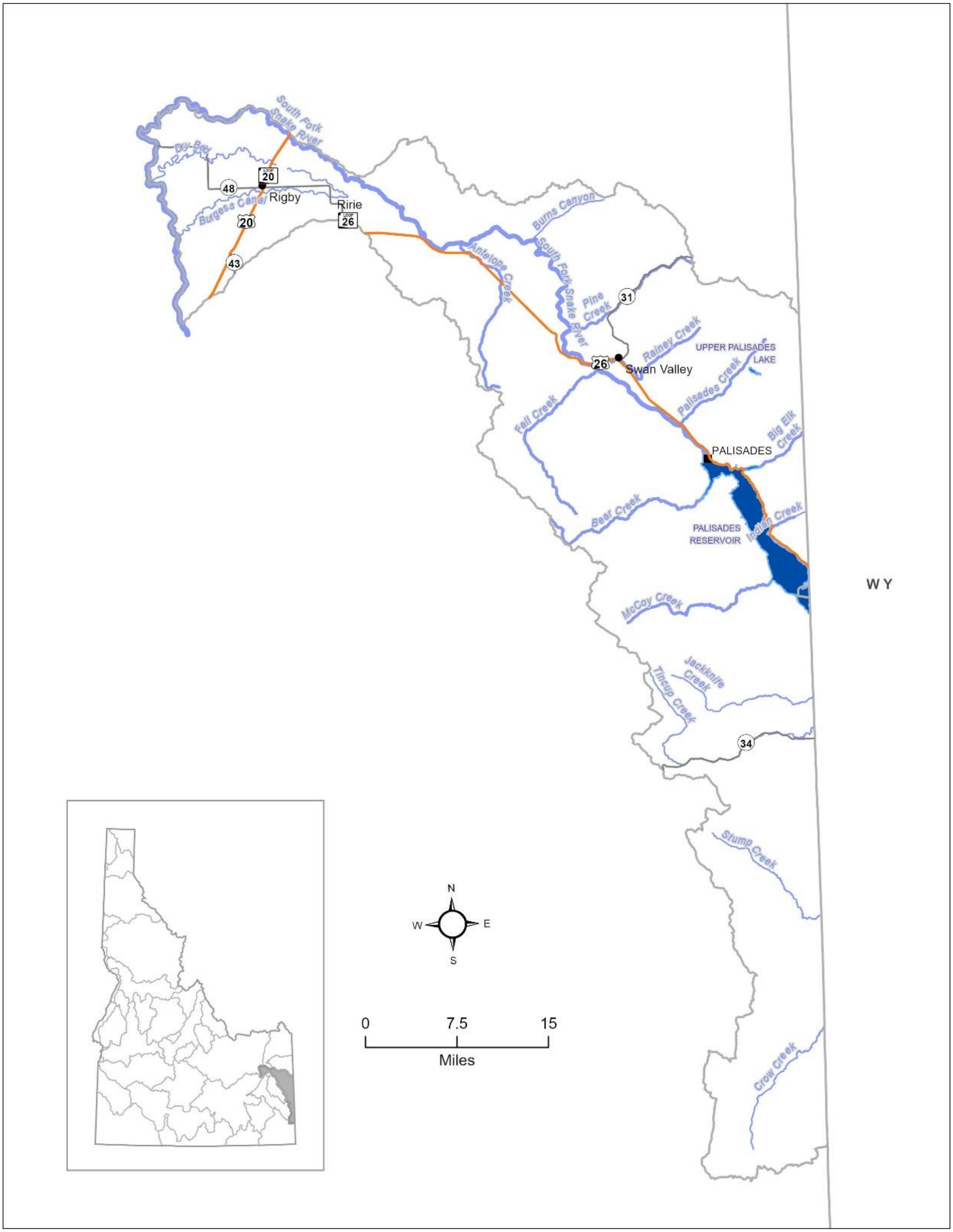
6. Objective: Maintain access sites to allow for anglers, hunters, and trappers to access the Teton River.

   Strategy: Continue to work with Teton County and other collaborators at Department-owned and other access sites along the Teton River to minimize conflict between multiple user groups.

   Strategy: Maintain or improve the functionality of Teton River access sites without increasing capacity.

Drainage: Teton River				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
Teton River North and South Forks to the splitter between the two forks (17 miles)	Cutthroat Trout Whitefish Rainbow Trout Brown Trout Green Sucker	Native Wild/natural Wild/natural Native	Quality General General	Work to improve fish passage and habitat in North and South forks with emphasis within the Moody Creek watershed, and work cooperatively with Department wildlife program to restore habitat as possible. Seek opportunities to improve angler access. Monitor distribution and ecology of Green Sucker in the drainage.
Teton River from North Fork/South Fork splitter to Trail Creek (83 miles)	Cutthroat Trout Whitefish Rainbow Trout Brown Trout Brook Trout	Native Incompatible	Quality	Work to promote/support Yellowstone Cutthroat Trout mitigation and actions plans associated with the Felt Hydroelectric Project. Manage as a wild trout fishery emphasizing efforts to improve Yellowstone Cutthroat Trout population. Work cooperatively to restore connectivity, habitat, and hydrologic regime. Seek out and secure angler access sites. . Work to promote/support Yellowstone Cutthroat Trout mitigation and actions plans associated with the Felt Hydroelectric Project. As possible, work to understand impacts of a novel Brown Trout population on native Yellowstone Cutthroat Trout, assess management options to mitigate adverse impacts, implement appropriate management actions where possible, and inform the public about Brown Trout.
Teton River Tributaries (150 miles)	Cutthroat Trout Whitefish Rainbow Trout Brook Trout Brown Trout	Native Incompatible	Quality	Work cooperatively to restore habitat and hydrologic regime where appropriate given non-native species concerns. Strategically implement connectivity projects where risks to isolated populations are minimal. Identify source populations of nonnative species that compete with Cutthroat Trout and address as feasible. As possible, work to understand impacts of a novel Brown Trout population on native Yellowstone Cutthroat Trout, assess management options to mitigate adverse impacts, implement appropriate management actions where possible, and inform the public about Brown Trout.

32. South Fork Snake River Drainage



Overview

The South Fork Snake River drainage consists of the mainstem and tributaries from its confluence with the Henrys Fork upstream to the Idaho/Wyoming State boundary, including Palisades Reservoir and tributaries as well as the Salt River tributaries that originate in Idaho (including Jackknife, Tincup, Stump, and Crow creeks). Fish species found in this reach include the following native species: Mountain Whitefish, Yellowstone Cutthroat Trout, Utah Chub, Longnose Dace, Speckled Dace, Redside Shiner, Northern Leatherside Chub, Utah Sucker, Green Sucker, Mountain Sucker, Paiute Sculpin and Mottled Sculpin; and the following introduced species: Rainbow Trout, Brown Trout, Kokanee and Brook Trout. The presence of high-quality habitat, relative abundance of native fish, and relative health of this drainage combined with input from our angling public make managing for native fish a high priority. Although native and wild trout is the management focus in South Fork drainage, the Department will consider supplemental hatchery releases on a case-by-case basis where fish populations have been impacted or where substantial habitat restoration projects have resulted in newly restored habitat becoming available.

From Palisades Dam to the confluence with the Henrys Fork, the South Fork supports a world-renowned fishery and one of the most important Yellowstone Cutthroat Trout populations in their historical range. Currently, the population of Rainbow Trout and associated genetic introgression pose the biggest single threat to the long-term persistence of the native Cutthroat Trout population. Though Rainbow Trout were a negligible component of the trout population until the late-1980s angler and electrofishing surveys showed a steady increase in the Rainbow Trout population until 2003, when they were as abundant as Cutthroat Trout in the upper reaches of the river. In 2009, Rainbow Trout significantly outnumbered Cutthroat Trout for the first time since sampling began, and the two species cycled around similar abundances as measured at the Conant sampling reach through 2018. The increasing trend in Rainbow Trout abundance is also evident in the angler catch. Wild Cutthroat Trout supported 71% of the catch in 1996, only 31% of the catch in 2012, and 50% in 2017. Brown Trout are well established in the South Fork as well, and they now make up a third of the species abundance at the Conant monitoring reach. Brown Trout abundance has not been correlated with trends of Cutthroat Trout in the South Fork, but adverse interactions between Brown Trout and Cutthroat Trout have occurred in other systems. and the impact of Brown Trout on Cutthroat Trout should continue to be monitored over the course of this plan.

The Department is working to protect and maintain an abundant Yellowstone Cutthroat Trout population. The primary management tools for accomplishing this are spawner management at tributary weirs, reducing the abundance of Rainbow Trout, and improving spawning tributary connectivity and habitat quality. Weirs and fish collection traps have been constructed on the four main tributaries to allow collection of Cutthroat and Rainbow Trout spawners during spring migration runs, providing opportunity to cull Rainbow Trout from the runs and protect important tributary spawning habitat for Yellowstone Cutthroat Trout. Research was initiated in 1996 to determine the status of the Rainbow Trout and hybrid trout populations and describe the timing and location of Rainbow Trout, hybrid trout, and Cutthroat Trout spawning activity. Whereas Rainbow Trout and hybrid trout used mainstem side channel habitat almost exclusively for spawning, Cutthroat Trout used both mainstem side channel and tributary habitat. Following these results, permanent trapping facilities were constructed between 2001 and 2003 to allow regional personnel to block escapement of Rainbow Trout and hybrid trout spawners and allow passage of genetically pure Cutthroat Trout spawners. The original weir designs were updated from picket or similar type weirs to electric or waterfall/velocity barriers weirs between 2009 and 2011 to increase capture efficiencies. Based on phenotypic examination, Cutthroat Trout are passed upstream, whereas Rainbow and hybrid trout are removed.

The Department has implemented a number of management actions to reduce the abundance of Rainbow Trout in the South Fork to address this primary threat to Cutthroat Trout. Management changes started with an aggressive program combining fishing regulation changes and public outreach in 2003 to encourage harvest of Rainbow Trout. Regulation changes included catch-and-release for Cutthroat Trout in the South Fork and tributaries and removal of the bag limits on Rainbow and hybrid trout. Additionally, the year-round season was extended from the Heise Cable to Palisades Dam to allow anglers an opportunity to target spawning Rainbow Trout. The rule changes were accompanied by a public awareness effort and distribution of identification aids to help anglers recognize Rainbow and hybrid trout. By 2005, Rainbow Trout harvest, which had been negligible prior to the effort, had increased to over 6,000 fish annually. Unfortunately, as anglers got accustomed to this new program, harvest declined. Beginning in 2010, we implemented an incentive program to encourage anglers to harvest Rainbow Trout. Coded wire tags are placed in the snout of captured Rainbow Trout, which are then released back to the river. Anglers turn in the heads of their Rainbow Trout to collect a potential reward of up to $1000. In 2012, our creel survey estimate of Rainbow Trout harvest was 28,282 fish, but that estimate decreased during the next creel survey (2017) to 8,750 fish. As angler harvest of Rainbow Trout decreased in 2017, the Rainbow Trout population experienced two consecutive strong recruitment events which drove the population to an all time high of 3,073 Rainbow Trout per mile in 2018.

The Department recently compiled decades of comprehensive monitoring data into an integrated population model to evaluate management actions. Results from the study suggest that actions to reduce impacts to Cutthroat Trout at the age-0 and age0-2 stages would be best, which include removing Rainbow Trout and managing winter flows (McCormick and High 2019). Following the 2018 surge of Rainbow Trout abundance, the Department initiated a suppression program to accompany the existing management actions of open fishing seasons, no bag limits, and the incentive program with efforts focused on reducing Rainbow Trout abundance in the South Fork. Initial results of the combination of these management actions, with suppression included, has been positive for Cutthroat Trout with abundance of Rainbow Trout on a declining trend. After a couple years of trial efforts, the Department initiated a concerted Rainbow trout suppression effort in 2021 with an objective of removing 30% of the Rainbow Trout population annually. This suppression effort will be continued for five years (through 2025) to cover a full life-span of an average Rainbow Trout in the South Fork. At the conclusion of the five-year suppression effort, the Department will evaluate the effectiveness of suppression to determine if it successfully changed the ratio of Yellowstone Cutthroat Trout to Rainbow Trout in the South Fork Snake River. Additionally, the Department will assess the ability of anglers, including guides, to harvest sufficient fish from the South Fork such that the need for electrofishing would be minimized or unnecessary to achieve removing 30% of the Rainbow Trout population in a given year. Following the 5-year effort, there may periodically be a need to lower the abundance of Rainbow Trout in the South Fork. The angling public will be an important part of management efforts over the course of this plan and will be leaned on first to achieve Rainbow Trout abundance reduction results, but additional management efforts may be required from time to time. Efforts will continue to be made to inform the public of the current status of the Yellowstone Cutthroat and Rainbow trout populations and the risk to the Cutthroat Trout fishery posed by Rainbow Trout.

During previous plans, the Department had been working with researchers and the BOR to identify and implement flow regimes that are beneficial to Cutthroat Trout and detrimental to Rainbow Trout. A 2004 comprehensive analysis suggested the magnitude and shape of the spring runoff flows may have a significant effect on the ratio of Rainbow to Cutthroat Trout recruits. In summary, years where spring time peak flows are high tend to favor Yellowstone Cutthroat over Rainbow Trout. Conversely, years with lower peak flows during the spring resulted in greater recruitment of Rainbow Trout relative to Cutthroat Trout. The Department worked with the BOR to achieve spring flows with high peaks as possible between 2004 and 2018. In 2018, the BOR worked with researchers from the original flow study to quantify the effects of spring freshets on Cutthroat Trout. This study concluded that spring flow management had been unsuccessful at changing species composition of Cutthroat Trout relative to Rainbow Trout and cited the inability to achieve the magnitude of flows targeted in the 2004 study as the primary reason spring flows between 2004 and 2018 were not successful. The peak flow identified in the BOR and Department studies to be effective at increasing Yellowstone Cutthroat Trout recruitment and ecosystem function were both at flows that exceed flood stage due to development along the river corridor. While spring freshets are not likely to help shape species compositions in the South Fork, they do enhance habitat quality within the system and the Department should continue to pursue opportunities to realize spring flows that mimic the timing of a natural hydrograph as much as possible over the course of the plan. Additionally, winter flows have continued to be identified as a significant factor affecting survival of juvenile trout, including Yellowstone Cutthroat Trout. While flood control requirements limit the ability to manage spring flows to benefit Yellowstone Cutthroat Trout conservation, winter flow management is still possible and should be prioritized during this plan.

While aquatic habitat in the mainstem South Fork is generally in good condition, managing discharge to improve trout populations and ecosystem function will remain a major priority. The lower 20 miles of the river is impacted by low water during late fall and winter due to irrigation diversions and reduced flows from Palisades Reservoir. Like all other watersheds in eastern Idaho, flows for managed aquifer recharge continue to be an increasing emphasis by water managers and irrigators. While managed aquifer recharge has the potential to benefit fish and aquatic ecosystems when conducted in a season and magnitude that aligns with fish needs, it can also be a substantial detriment if conducted at a time or location that negatively impacts fish populations. The lower South Fork is a location where managed aquifer recharge could negatively affect fish populations. The availability of winter habitat has been documented as the primary factor limiting fish abundance in the South Fork, and the lower South Fork is a naturally losing reach of river where surface flows sink into the substrate. With a common tendency of the BOR to limit releases from Palisades Reservoir during winter, any additional water withdrawals can negatively affect fish populations and this important fishery. The Department should be an active participant in flow management discussions, particularly related to managed aquifer recharge over the course of this plan, to minimize negative impacts on the fishery. An additional impact of water diversion is fish entrainment into canals. Telemetry research from 2015 through 2017 suggested entrainment overall in the canal system on the South Fork was not sufficient to cause population level declines in fish abundance, but if timing and magnitude of diversions change, investigating the impact of entrainment on population abundance should be revisited. The largest diversion, an old side channel of the river called the Great Feeder or Dry Bed, is 20 miles in length and provides adequate habitat to support a trout fishery. However, dewatering of the Dry Bed annually in the spring for head-gate maintenance results in an annual loss of fish.

Palisades Reservoir is managed with general regulations and provides fishing opportunity for bank, boat and ice fishermen for a variety of salmonids. Fishing effort was 22,500 angler hours during 1993, and 44,623 hours in 2015. Stocking is used to improve the Cutthroat Trout fishery. Yellowstone Cutthroat Trout have been stocked as catchables and sub-catchables, with mixed success. Beginning in 2014, stocking of fingerling Cutthroat Trout in the spring was replaced with the stocking of advanced (6”+) fingerlings in September after irrigation delivery had slowed. This was an effort to reduce exposure of stocked fish to entrainment through the dam and increase survival within the reservoir. Lake Trout and Kokanee have been introduced but only small natural populations have developed. Large fluctuation in water levels (up to 80 vertical feet) and reduced ability to reach spawning areas may affect these open water species and may limit total trout abundance in the reservoir. To counter this, adult spawning Kokanee have been captured on spawning runs in Big Elk Creek and transplanted above a weir in Bear Creek between 2015 and 2019. Returns of successfully spawned offspring from these efforts were not observed and translocation efforts to Bear Creek were suspended. Anglers continued to vie for an enhanced kokanee fishery in Palisades Reservoir, and transplant experiments from Big Elk Creek to McCoy Creek could be evaluated over the course of this plan while early run kokanee are in short supply from our hatchery program.

Existing boating access facilities that service the Palisades Reservoir fishery have become increasingly overcrowded due to heavy use during the summer months, and users are asking for additional access areas. The bottleneck in access was exacerbated by security concerns at Palisades Dam, which historically was used to access the Calamity boat ramp on the far side of the Reservoir. Once BOR eliminated the road across the dam as a means for the public to use to access the boat ramp, boaters were required to tow their boats across five miles of washboard, gravel road to get to Calamity. While this impact was ameliorated with Bonneville County paving the new access road to the Calamity boat ramp, the road washed out during the spring of 2023, and there is currently no timeline for when repairs will be completed. This creates a strong need to obtain additional boat ramp/angler access along the highway side of the reservoir and should be prioritized over the coming period.

Tributary streams to the South Fork can benefit from in-stream habitat restoration and riparian restoration, particularly Rainey Creek. Trout Unlimited, the South Fork Initiative, and other partners including landowners have completed projects to reconnect and improve habitat on Garden and Pritchard creeks, as well as improving fish passage and habitat quality in Rainey Creek. Due to this collaborative effort, nearly all irrigation diversions on these tributaries are now screened with the last unscreened diversion on Rainey Creek scheduled for a screening project during the course of this plan. The Department will continue to support fish passage and habitat restoration projects to benefit Cutthroat Trout populations in the watershed.

Recreational river use continues to increase in the South Fork and is managed by the BLM, who has engaged in exploring methods to reduce overcrowding on the South Fork. Over the course of this plan the BLM will implement a reservation system for camping spots based on identified actions from their 2015 survey of river users. It is unlikely that the reservation system will impact the number of users on the South Fork. Limiting daily floating trips through a permit system was not recommended of the BLM 2015 study, but the Department continues to hear concerns about over crowding and user experience on the South Fork. Crowding will continue to be an issue to monitor over the course of this plan.

Salt River (Wyoming) tributaries which originate in Idaho include Jackknife, Tincup, Stump, and Crow creeks. These tributaries will be managed for restricted Cutthroat Trout harvest to protect and/or restore populations. These tributaries are high quality and important fisheries for Yellowstone Cutthroat Trout and Brown Trout. Since 1997, Tincup Creek was stocked with 1,000 to 2,000 catchable-size Cutthroat Trout. Tincup Creek was the only of Idaho’s Salt River tributaries stocked with hatchery fish. Stocking of Cutthroat Trout in Tincup Creek was discontinued in 2023 to focus on wild Cutthroat Trout production.

Several factors are potentially limiting the fish communities in these drainages. Research has identified that high proportions of the streamflow in these tributaries are diverted for irrigation use with little to no protection for fish from entrainment. Phosphate mining in tributaries that flow into Crow and Stump creeks has altered habitat and, in some cases, exposed flow to oxidized seleniferous rock. Investigations by state and federal agencies, as well as conservation organizations and industry, are ongoing to determine the impacts from elevated selenium on the fish community to identify strategies to improve Yellowstone Cutthroat Trout conservation.

Objectives and Strategies

1. Objective: Preserve genetic integrity and population viability of native Cutthroat Trout.

   Strategy: Do not stock or allow stocking of streams, rivers, reservoirs or ponds with other species of fish that will interbreed with Cutthroat Trout.

   Strategy: Continue to refine and evaluate effectiveness of fish trapping weirs on Burns, Pine, Rainey, and Palisades creeks and operate to manage those tributaries strictly for Cutthroat Trout spawning and production.

   Strategy: Complete the 5-year Rainbow Trout Suppression evaluation to determine if removal of 30% of the Rainbow Trout population annually can effectively alter the Yellowstone Cutthroat Trout to Rainbow Trout ratio in the South Fork Snake River.

   Strategy: Remove or suppress nonnative trout in tributary streams where biologically and physically feasible to create refuges for Cutthroat Trout to spawn in the absence of competing species.

   Strategy: Continue to monitor genetic status of wild Cutthroat Trout populations.

   Strategy: Protect Cutthroat Trout by minimizing fishing-related mortality.

2. Objective: Maintain Yellowstone Cutthroat Trout dominance in abundance over Rainbow Trout (including hybrids) as indexed by the Conant monitoring site.

   Strategy: Pursue Rainbow Trout suppression when Rainbow Trout (including hybrids) approach similar abundance of Yellowstone Cutthroat Trout as indexed by the Conant monitoring site.

   Strategy: Continue outreach effort to emphasize importance of Rainbow Trout suppression through angling and other means.

3. Objective: Maximize juvenile Cutthroat Trout production from tributaries.

   Strategy: Operate and maintain the Palisades Creek and Burns Creek fish screens in cooperation with local irrigators.

   Strategy: Review new water right applications and when applicable only allow new use when flow in the Snake River immediately downstream from the Dry Bed bifurcation structure on the Snake River reaches or exceeds 1,422 cfs. In practice, this streamflow is estimated by subtracting the streamflow at USGS gage 13038000 Dry Bed near Ririe from the streamflow at USGS gage 13037500 Snake River near Heise and also subtracting all canal and pump diversions from the Snake River between USGS gages 13037500 and 13038000.

Strategy: Implement strategic, prioritized habitat restoration plan in Rainey Creek; monitor fry outmigration as measure of success.

4. Objective: Minimize impacts of land use, development, and water use on fish habitat and water quality.

   Strategy: Work with government agencies, private landowners, developers, and interested conservation groups to make protection and enhancement of fish habitat, water quality, and stream flow a primary concern in land and water use decisions.

   Strategy: Partner with developers on large projects that incorporate important tributaries within development boundaries and implement habitat restoration as part of the new development.

   Strategy: Work with the Environmental Resource Technical Working Group to understand impacts of managed aquifer recharge activities, particularly downstream of the Great Feeder Canal.

5. Objective: Improve the salmonid fishery in Palisades Reservoir.

   Strategy: Evaluate Cutthroat Trout hatchery practices, size at stocking, use of sterile Cutthroat Trout, and timing of stocking to maximize survival and return to creel of hatchery fish.

   Strategy: Maintain restrictive harvest rules for Cutthroat Trout in principal spawning tributaries.

   Strategy: Work with partner agencies and conservation groups to restore habitat and connectivity in tributaries and address non-native species concerns.

   Strategy: Establish self-sustained spawning runs of kokanee in additional tributaries to Palisades Reservoir. Monitor fry outmigration and returns of adult kokanee as metric of success.

   Strategy: Periodically evaluate success of actions to improve Palisades Reservoir with creel surveys.

6. Objective: Close information gaps in the Salt River tributaries

   Strategy: Prioritize fisheries evaluations for abundance, distribution, and harvest rates of Cutthroat Trout, as well as species composition of other salmonids and native non-game fish.

7. Objective: Identify and evaluate impacts and seek mitigation for damages associated with land usage in the Salt River tributaries, including grazing and mining.

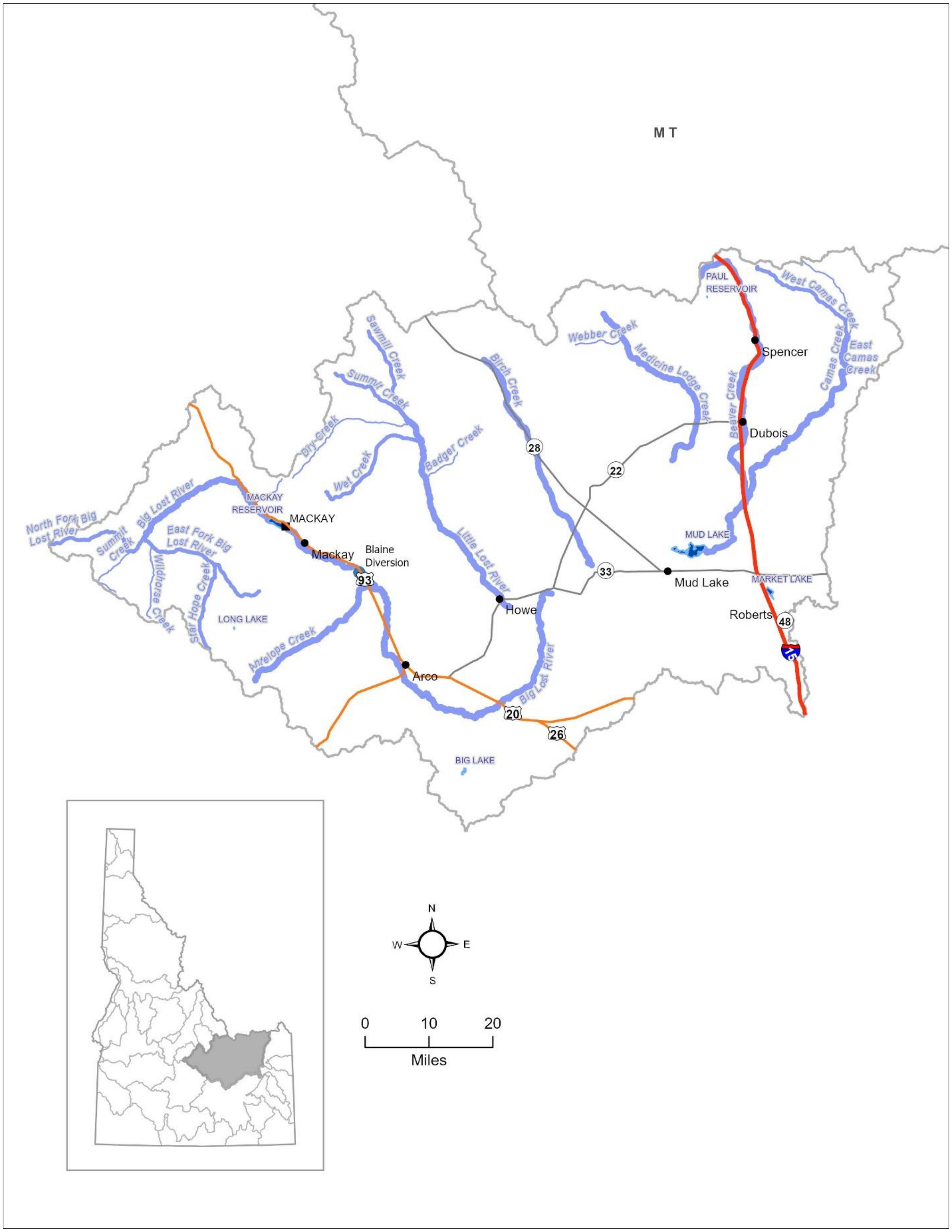
   Strategy: Work with federal land managers to monitor grazing impacts to riparian areas and address as needed to improve Cutthroat Trout habitat conditions.

   Strategy: Evaluate phosphate mining impacts on Cutthroat Trout populations and water quality in the Salt River Tributaries.

Strategy: Establish selenium sampling standards to ensure mine-generated selenium is not affecting Cutthroat Trout populations.

Drainage: South Fork Snake River				
Waterbody	Species of Interest	Management Strategies		Additional Management Directions
		Primary	Secondary	
South Fork Snake River mouth to Palisades Dam (64 miles)	Cutthroat Trout Whitefish Brown Trout Rainbow Trout Green Sucker	Native Wild/natural Incompatible Native	Conservation Quality	Maintain and restore Yellowstone Cutthroat Trout population through Rainbow Trout harvest and suppression (as necessary). Complete and evaluate effectiveness of 30% annual Rainbow Trout Suppression from 2021 through 2025. Maintain Yellowstone Cutthroat Trout as the dominant trout in the South Fork (excluding Brown Trout). Evaluate distribution of Green Sucker in drainage.
Burns, Pine, Rainey, and Palisades creeks (50 miles)	Cutthroat Trout Rainbow Trout	Native Incompatible	Conservation	Conserve resident Cutthroat Trout populations. Use weirs to block escapement of Rainbow Trout. Enhance stream habitat and Cutthroat Trout recruitment with riparian habitat improvement, fish passage projects, diversion screening, and suppression of non-native trout. Maintain spawning refugia in tributaries, improve habitat and fish passage.
McCoy Creek and tributaries (20 miles)	Cutthroat Trout Brook Trout Rainbow Trout Brown Trout	Native Wild/natural	Quality General	Ensure Yellowstone Cutthroat Trout abundance, growth, and survival is not limited by fishing-related mortality.
Tincup, Stump, Crow, Jackknife creeks and tributaries (90 miles)	Cutthroat Trout Brown Trout Northern Leatherside Chub Brook Trout	Native Wild/natural Native Incompatible	Quality General Quality	Evaluate abundance and distribution, monitor fishing mortality, and work with partners to improve habitat. Evaluate ecology of Northern Leatherside Chub in Salt River tributaries Monitor selenium toxicity to aquatic organisms, address as necessary. Enhance habitat through riparian livestock management. Assess needs for habitat improvement program and implement as necessary.
All other tributaries (354 miles)	Cutthroat Trout	Native	Quality	Enhance habitat with riparian livestock management.
Palisades Reservoir (15,960 acres)	Cutthroat Trout Rainbow Trout Brown Trout Lake Trout kokanee kokanee	Native Incompatible Wild/natural Hatchery-supported Wild/natural	General General Yield	Put-and-grow fishery for Cutthroat Trout. Establish self-sustaining kokanee spawning populations in tributaries beside Big Elk Creek to increase Kokanee recruitment to the reservoir. Explore options for supplemental stocking of kokanee as needed. Seek opportunities to improve angler access to Palisades Reservoir.

33. Sinks Drainages



Overview

The Sinks drainages include the Big Lost and Little Lost rivers, Birch, Camas, Beaver and Medicine Lodge creeks drainages, all of which sink into the upper Snake River Plain aquifer. Rainbow Trout of generally small size are the predominant fish throughout the drainages, except for some headwater tributaries where Brook Trout, Bull Trout, or Cutthroat Trout are dominant. Native Cutthroat Trout and Bull Trout are maintaining fishable populations in some limited areas. Mountain Whitefish are found only in the Big Lost River drainage. Stream habitat quality and fish populations vary from excellent to poor. While many headwater streams are in good condition, the quality of stream habitat often declines as the streams approach the Snake River Plain. This decline is typically associated with channel dewatering by varying snowpack levels, irrigation diversions, livestock grazing, agricultural development, channelization, and natural dewatering as flows sink into the Snake River Plain Aquifer. Stream habitats become marginal where they flow into the Snake River Plain due to diversion and freeze out. When streamflow is maintained, and where groundwater inflow is lacking, wintertime air temperatures often cause streams to become icebound and leave their channels. Subsequently, these areas generally provided limited fisheries due to high natural mortality.

Irrigation diversions often dewater the lower segment of most streams within the drainage, yet productivity is generally high due to large amounts of groundwater input. Drought conditions periodically impact many of the smaller headwater tributaries in the Sinks drainages. As environmental conditions improve, the Department will consider stocking on a case-by-case basis where fish populations have been impacted. This may include those drainages managed for wild trout. Preference will be given to relocating trout from nearby streams, using an appropriate broodstock, or using sterile fish to avoid impacts to native species where appropriate.

The Big Lost River is the largest of the Sinks Drainages covering 1,992 square miles. The Big Lost River originates in the Pioneer, Boulder, Lost River, and White Knob Mountain ranges and flows down the Big Lost River Valley and then onto the Snake River Plain where it terminates at the Big Lost River Sinks. Major tributaries include East Fork, Star Hope Creek, Wildhorse Creek, North Fork, Thousand Springs Creek, Alder Creek, Pass Creek, and Antelope Creek.

Twelve species of fish have been documented in the basin. Common game fish found in the drainage are Rainbow Trout, Cutthroat Trout, Brook Trout, and Mountain Whitefish. HMLs in the drainage include these species but may also be stocked with or have naturally reproducing populations of Golden Trout Grayling, and sterile Lake Trout as well. Mackay Reservoir supports a reproducing population of introduced kokanee. Mountain Whitefish are the only game fish native to the drainage. Based on microsatellite DNA analysis, the population is believed to have been isolated in the Sinks Drainages for over 150,000 years. Historical accounts indicate that Mountain Whitefish were once widely distributed and relatively abundant in the Big Lost River basin. Recent declines in the distribution and abundance of the Mountain Whitefish population have led the Department to develop a conservation and management plan for the Big Lost Whitefish population (IDFG 2007b). It seems evident that the single greatest factor associated with the decline in abundance is dewatering, although Proliferative Kidney Disease (PKD) is present in the drainage, which by itself or in combination with other pathogens may be reducing whitefish survival. Key elements of the conservation and management plan are restoring passage over irrigation diversions, identifying opportunities for increasing surface flows in currently dewatered reaches, assessing impacts of entrainment and prioritizing opportunities for screening. Additionally, the Department instituted no-harvest regulations for Mountain Whitefish in the Big Lost River drainage in 2006. By 2011, all major barriers to Mountain Whitefish movement, with the exception of Mackay Reservoir, had been improved, but the effectiveness of these improvements has not been fully evaluated. In some cases, Mountain Whitefish numbers have responded positively to management efforts, but additional improvement, assessment, and maintenance is necessary for achieving goals established in the management plan. The effectiveness of fish passage improvement projects should be evaluated to determine if additional improvement efforts are necessary.

The Big Lost Whitefish Management Plan calls for two metapopulations of 5,000 MWF each, upstream and downstream of Mackay Reservoir. Recent sampling data in 2022 indicate those population goals are not being met, while some of the distribution goals are. We are meeting the management objectives calling for presence in three tributaries, in addition to the mainstem, and we believe that natural levels of connectivity sufficient for all age classes to make natural movements in historically occupied habitat is also occurring. Downstream of Mackay Dam, we are not meeting all of the management objectives. Mountain Whitefish are currently distributed from the Blaine Diversion to Mackay Dam, but their abundance is less than 5,000 fish, and entrainment into canals continues to be a major issue limiting their survival and abundance. As of 2022, we do not know the abundance of Mountain Whitefish between the Blaine and Moore diversions, but we do know that they are present in this reach. Furthermore, we did not detect any in Antelope Creek. Additional work to determine the cause of declines was conducted during the previous plan, but no obvious factors were identified. Disease (PKD and whirling disease), angling mortality, and habitat were not correlated.

Efforts to expand whitefish populations will continue over the next period. Fish salvage in canals has been ongoing since 2004 and supports the objectives of the Department (IDFG 2007b) by translocating Mountain Whitefish entrained in canals or stranded in drying reaches of stream into reaches where we are trying to improve distribution and abundance. An evaluation of the disease risks or vector presence in the Big Lost Drainage should occur. Similar to Mountain Whitefish, population trends for all trout species in most areas of the Big Lost Drainage sustained a decline between 2012 and 2017, with no clear understanding of the cause of those declines. While many conservation activities contributed to the rebound in whitefish populations in the early 2010s, a return to better water conditions will help recovery. Continued efforts to identify the factor(s) negatively affecting trout in the Big Lost River should be made over the course of this plan. Management priority for the Big Lost Drainage will emphasize protection of Mountain Whitefish but will also focus on providing a diverse recreational fishery supported by Rainbow Trout, Yellowstone Cutthroat Trout, and Brook Trout.

Continued efforts to identify the factor(s) negatively affecting trout in the Big Lost River should be made over the course of this plan. Management priority for the Big Lost Drainage will emphasize protection of Mountain Whitefish but will also focus on providing a diverse recreational fishery supported by Rainbow Trout, Yellowstone Cutthroat Trout, and Brook Trout.

Mackay Reservoir, built in 1916, is an irrigation supply reservoir having a maximum capacity of 44,500 acre feet and a minimum pool of 125 acre feet. Pool levels below 4,600 acre feet occur during dry years, causing flushing of a large number of trout and kokanee through the outlet structure of the dam into the Big Lost River. This has limited the ability to manage Mackay Reservoir for a wild trout fishery or to effectively supplement with fingerlings. Catchable Rainbow Trout and naturally reproducing kokanee compose the majority of fish caught with some Brook Trout and wild Rainbow Trout present. Kokanee are a significant component of the reservoir fishery in years with sufficient carryover and winter pool. This fishery has improved substantially with a larger minimum pool at the end of the irrigation season which was common prior to the 2021-2022 drought. In 2023, a malfunction of the water release gates in Mackay Dam resulted in most of the reservoir draining again. When winter carryover of water is relatively high and consistent over consecutive years, the reservoir supports a robust and popular year-round fishery.

Of particular interest is the winter ice fishery targeting kokanee. Trout habitat suitability may be threatened in Mackay Reservoir by a current proposal for a pump-storage hydropower facility associated with Mackay Reservoir. The impacts of the operation of a pump-storage facility on reservoir water levels, turbidity, temperature, and associated biological effects such as primary productivity changes, alteration of the zooplankton community, warmer water temperatures are not conducive to trout growth and survival. These concerns for the reservoir fishery should be fully evaluated and considered.

The 60 miles of the Big Lost River below Mackay Reservoir supports a popular and socially important year-round Rainbow Trout fishery tailrace and is an ecologically important component of the Mountain Whitefish population. The fishery in the 5-10 miles below Mackay Dam is exceptional in terms of Rainbow Trout growth rates and densities. Not surprisingly, this fishery has grown in popularity in recent years. Despite the increasing popularity of the fishery, exploitation appears to be minimal based on tag returns, creel surveys, and catch curves. The prevalence of catch-and-release anglers and the limited access to the river limit the need for restrictive rules. Similar to many tailrace fisheries, the Big Lost River is affected by winter flows, which are the primary factor controlling trout abundance. To help support the tailrace fishery a 50 cfs flow should be maintained below Mackay Dam as described in the Snake River Basin Adjudication General Provision for Basin 34 (Big Lost River) and IDWR Water Distribution Rules for Water District 34. Additionally, summer habitat conditions can be limiting as well in terms of irrigation diversion, fish entrainment, and dewatering. Furthermore, concern on summer water temperatures, turbidity, and other water quality parameters could be negatively impacted by a proposed pump-storage hydro facility associated with Mackay Reservoir and could add to existing challenges Big Lost River fish face in the tailrace.

The Big Lost River downstream of Mackay Reservoir has been extensively modified by numerous irrigation diversions and channelized for flood control. Drought conditions affected the Sinks drainages from 1987 through 2004 and again more recently from 2020 through 2022. During these periods, water storage and natural stream flows did not meet irrigation demand. As a result, an extensive development of wells in the area from Mackay to the Idaho National Laboratory (INL) boundary has occurred. Wells have caused groundwater levels to recede, which has dried up many springs that resulted from perched clay layers in the alluvium of the valley floor. As surface water became scarce, more wells were drilled, creating holes in the clay layers of the valley floor. Water flowing along the clay layers then flows down along the well casing, further reducing surface water and exacerbating the problem the wells are trying to address. Similar to other drainages east of the upper Snake plain high desert, managed aquifer recharge is an increasingly active component of water management in the Big Lost River valley and has the potential to negatively or positively affect fish populations and water quality depending on how and when recharge activities take place. The Department should remain an active participant in water management discussions in the Big Lost Valley. Well development combined with lower natural flows has reduced or eliminated most salmonid populations downstream from the Moore Diversion. In many years, the river is dewatered near the Blaine Diversion, essentially eliminating an additional 10 miles of perennial stream flow. However, when this portion of the river remains wetted, it houses a population of both trout and Mountain Whitefish. Stranding of Mountain Whitefish is a common occurrence as the lower Big Lost River dewaters, and the number of fish observed below the Blaine Diversion can be higher than population estimates from electrofishing surveys and include multiple age-classes of fish. Prioritizing fish passage, salvage, and screening in the lower Big Lost Valley should be a focus during the implementation of this plan. A collaborative study in the mid-2000s evaluated the feasibility of restoring the stream channel through the “Darlington Sinks” in an effort to reduce surface water loss, and concluded this option was not realistic. Regardless, it is likely that additional demands will be placed on the water below Mackay Dam in the coming years, particularly during below-average water years. Limited angler access to the Big Lost River has become an issue. The Department will continue to work with partner agencies and landowners to provide access to the public through easements, purchases, and landowner agreements.

Access to recreation can be challenging due to extensive private property. Recently, the Department secured two permanent access points in the lower river – one at the Mine Hill Bridge, and the other at the Blaine Diversion. There is still a need for one or two additional access points between the Mine Hill Bridge and Stennett access points. Fishery assessments in recent years indicate the majority of Rainbow Trout in this reach are of wild origin, and that the fishery is not based on entrainment from Mackay Reservoir.

Recently, a new fishery has become established in Lower Cedar Creek providing the state's first stream-based Golden Trout fishery. This fishery has resulted from collaborative efforts between the Department and Mackay High School's National FFA Organization (FFA). Continued collaboration with Mackay High School to maintain and improve this unique fishery should continue.

Antelope Creek is one of the major tributaries to the Big Lost River and joins the Big Lost below the Blaine Diversion. As such, it remains isolated from the Big Lost in most years, occasionally connecting during high flow events such as spring runoff. Antelope Creek was once stocked with Rainbow Trout, but beginning in 2002, was transitioned over to wild trout management due to limited use by anglers coupled with limited hatchery resources. Since that time, the Department has attempted to establish Mountain Whitefish populations by translocating fish that had been salvaged from below irrigation headgates. To date, these efforts have not been successful. Recently a new Department access site has been developed in lower Antelope Creek and some local anglers have requested the Department begin stock the Antelope Creek fishery with hatchery catchables again. As possible, the utility of stocking in Antelope Creek should be evaluated during this plan. Given the absence of native salmonids, the upper Antelope Creek Drainage also provides a unique opportunity to attempt to establish alternate species of salmonids with little risk or jeopardy to other important trout resources. This concept should be evaluated over the period of this plan, and stockings of appropriate alternate species should be implemented where feasible and desirable.

The Big Lost River from Mackay Reservoir upstream to the Chilly Diversion is annually dewatered for irrigation and through natural means and has been affected by long-term stream alteration activity. The river and tributaries upstream of the Chilly Diversion support wild Rainbow Trout, Brook Trout, Cutthroat Trout, and Mountain Whitefish populations. In recent years, angler reports about catching Arctic Grayling in the Big Lost above Mackay Reservoir have increased. Angler reports were confirmed with electrofishing surveys in 2017 which documented grayling in the Big Lost River above Mackay Reservoir, East Fork Big Lost River, Star Hope Creek, and Lake Creek. Whether grayling have established a wild reproducing population in these systems is unknown but should be evaluated over the course of the plan. Current information on the potential impacts of grayling on Mountain Whitefish populations is lacking; as such the Department should not stock grayling in the Big Lost Drainage where they can access streams with Mountain Whitefish until additional research is completed to address overlap between these two species.

The Big Lost River from Bartlett Point Road to North Fork and the East Fork Big Lost River from North Fork to West Fork (Star Hope Creek) were managed under a quality trout regulation of two trout over 14 inches from 1988 until 2000. However, the population did not improve as a result of the regulation change, and the reach was returned to general regulations after it became apparent that angling exploitation was not suppressing the population. Trout populations declined significantly in many stream reaches upstream of Chilly Diversion between the 1980s and 1990s. The causes of the population decline in the early 1990s in the upper drainage are not clear, but it may be associated with drought, loss of connectivity with Mackay Reservoir, and disease. Surveys in 2017 showed trout populations had continued to decline, again raising concerns for impacts from disease or possibly flow alterations resulting from earlier snowmelt or similar environmental changes. Sampling in 2022 indicated trout populations had begun to increase. Recent strategies included stocking fertile Cutthroat Trout, Henrys Lake eyed-egg transplants, and transplanting wild Rainbow Trout from SF Snake River. These actions combined with several strong snowpacks since 2017 have likely contributed to the noticeable increase in trout abundance.

As part of the work associated with the Mountain Whitefish recovery plan, fish passage has been provided around all identified barriers in the Big Lost River upstream of the Chilly Diversion. Additionally, Yellowstone Cutthroat Trout have been stocked since 2000, and the species now contribute substantially to the fishery in the Big Lost. Stocking continues but natural reproduction is common, as with all species in this drainage. A concerted effort to identify limiting factors on trout populations will occur over the course of this plan.

There are several headwater stream reaches in the Big Lost River basin that have excellent fish habitat but do not currently contain fish or fish densities are very low. Collectively, these stream reaches could provide several miles of high-quality fishing opportunity if fish could be established in these areas. The lack of native trout in the Big Lost River basin provides a unique opportunity to use hatchery trout to establish fish populations in these areas. This concept will be evaluated over the period of this plan, and introductions of hatchery trout, including species not commonly stocked, will be considered where feasible and desirable.

Fifty-two of the 61 actively managed HMLs (approximating 290 acres) in the Upper Snake Region are located in the Big Lost River drainage and are generally managed using statewide management direction (High Mountain Lake Management). The Department is conducting an experiment on Angel Lake using sterile Lake Trout to assess whether the introduction of this predator species in an alpine lake can successfully enhance the size structure of an overabundant Rainbow Trout population while diversifying the fishery. Initial results have indicated stocking catchable-sized Lake Trout has not resulted in expected Lake Trout growth rates given the abundant available food source. Alternate sterile Lake Trout stocking strategies should be evaluated.

The Little Lost River drainage contains primarily wild Rainbow Trout and Bull Trout, although Brook Trout are abundant in some of the headwater areas. Yellowstone Cutthroat Trout are also found in one stream in the Little Lost drainage. The highest densities of Bull Trout are present in the Sawmill Creek drainage. Anglers have reported catch rates in excess of one fish per hour. The Little Lost River has been managed for wild trout since 1983, and under wild trout regulations (two trout possession limit) since 1993. Bull Trout harvest has been closed (concurrent with the state-wide Bull Trout harvest closure) to protect this population. As a result of the threatened status of Bull Trout, the Department has worked cooperatively on a recovery plan for the Little Lost drainage. Management actions have emphasized increasing fish passage around barriers, improving connectivity among tributaries, reducing habitat impacts of livestock grazing, habitat restoration, and minimizing impacts from Brook Trout. In 2023, a collaborative rotenone treatment was conducted in Warm Creek by the Department, USFS, BLM, USFWS and Trout Unlimited to remove an invading Brook Trout population in this Bull Trout stream and keep reinvasion unlikely with a fish passage barrier. To date, no Brook Trout have been observed upstream of the barrier in Warm Creek, and the project appears to have been successful. Opportunities for similar renovation and Bull Trout protection projects are possible in the Little Lost River drainage and should be evaluated and implemented as possible. Efforts to increase public awareness of the presence and identification of Bull Trout have been effective and will continue. The Department will continue to monitor the fish populations throughout the drainage, and the presence of Bull Trout in combination with suitable habitat will make managing for this species a priority in the Little Lost River.

Birch Creek provides a high catch rate fishery supported by hatchery supplementation with additional contribution from abundant wild Rainbow Trout and Brook Trout populations. Birch Creek is a popular destination fishery for harvest-oriented anglers. The fishery continues to be managed as a high catch rate destination for new and young anglers with yield as a management focus. The fishery is stocked regularly from early May through September. The lower portion of Birch Creek is part of a mitigation settlement for the creation of the Hydropower operation that dewaters the lower portions of the creek. Between 2017 and 2024 documented angler encounters and fish population surveys have reported Brown Trout presence in Birch Creek. Brown Trout have increased in abundance and distribution in Birch Creek and multiple size classes are present indicating natural reproduction is occurring. Brown Trout were illegally stocked in Birch Creek and represent a substantial threat to other fish species in the system as well as adjacent watersheds. The feasibility of removing Brown Trout from Birch Creek should be assessed and management action should be taken if feasible. Fish kills have occurred in the lower reach of Birch Creek in the channelized reach associated with the power plant, which has a times not been able to meet the mitigation requirements issued by FERC. Additional documentation of fish populations and fish kills in the mitigation reach will continue, and we will seek to resolve this discrepancy. Birch Creek will continue to be monitored and will be managed to provide high catch rates consistent with prior management goals. No salmonids are native to Birch Creek, so management will focus on nonnative species to provide a desirable experience for anglers.

Electrofishing surveys of the Medicine Lodge drainage have found abundant populations of Cutthroat Trout and Brook Trout in some tributaries, although wild Rainbow Trout in the mainstem which are the dominant species of the drainage. The Medicine Lodge drainage has been managed for wild trout since 1983 and under the wild trout regulation (two trout possession limit) since 1998. Opportunities to restore native Cutthroat Trout to portions of the drainage through eradication of non-native species and reintroductions will be identified and addressed as feasible. Because of the impacted nature of this drainage, the abundance of nonnative fish, and the inability to successfully eradicate nonnative fish and establish native fish in some locations, combined with input from our angling public, this drainage will be managed for introduced species except isolated streams with consisting entirely of Yellowstone Cutthroat Trout which will be managed for these native fish.

The Beaver/Camas Creek drainage includes Mud Lake and Beaver and Camas creeks as important waters. High density populations of wild Cutthroat Trout, Rainbow Trout and Brook Trout exist in most streams in the headwater areas. However, allopatric populations of native Cutthroat Trout (those without Brook Trout or Rainbow Trout) are limited. Despite the broad distribution of Rainbow Trout and Brook Trout, there are a limited number of streams where non-native species can easily be eradicated and subsequently prevented from recolonizing. The Department will work to identify candidate streams for renovation projects benefiting Cutthroat Trout and will work with stakeholders to restore native Cutthroat Trout populations where feasible and supported by the public. Low flows and warm summer temperatures limit trout populations in the lower ends of these streams. Further, the small size of streams found on public ground limit the ability of the Department to provide a quality fishery for the public in the Beaver/Camas drainage. Most large water suitable of sustaining trout populations and a recreational fishery is found on private land. As such, efforts to work with private landowners to establish supplemented populations of trout to create recreational fisheries should be undertaken over the course of this plan. Because of the impacted nature of these drainages, the abundance of nonnative fish, and the inability to successfully eradicate nonnative fish and establish native fish combined with input from our angling public, these drainages will be managed for both native and introduced species.

Fish populations and interest in fishing Beaver Creek have declined during the 2000s as a result of the drought and a cessation in stocking activities in 2010. Stocking ceased into the early 2010s when hatchery production constraints resulted in a reprioritization of stocked trout. The limited use by anglers along Beaver Creek and subsequent poor returns of hatchery fish resulted in a cessation of stocking in this drainage. However, a naturally reproducing Brook Trout population is likely capable of supporting current fishing effort in Beaver Creek. Paul Reservoir, which lies in the Beaver Creek drainage, is managed to provide high catch rates for anglers. The reservoir is stocked annually with fingerling Cutthroat Trout. The program continues to be very successful, with anglers reporting high catch rates and an enjoyable fishing experience.

Mud Lake is located at the lower end of the Beaver/Camas drainage, and is managed for waterfowl production, although it also supports a recreational fishery. Mud Lake at one time contained large numbers of Cutthroat Trout, but high summer temperatures, fluctuating water levels and low winter dissolved oxygen have greatly decreased the suitability for trout. Mud Lake has lacked a coldwater fishery since water management changes in the early 1960s impacted Camas Creek and Mud Lake water quality. Experimental introductions of Lahontan Cutthroat Trout began in 1990 to evaluate this subspecies potential under existing high alkalinity and temperature conditions. Decisions by the irrigation company that controls Mud Lake water management have resulted in substantial drawdowns of the lake during the fall and into the winter. Prior to these drawdowns, winter fish kills were periodically encountered due to the large amount of vegetation and shallow depths of the lake. Following this shift in water management in the mid-2000s, winterkills became common and likely limit fish abundance at some level. Presently, the Mud Lake fishery is supported by a small population of Yellow Perch, some Brown Bullhead, low densities of Largemouth Bass. Largemouth Bass in Mud Lake grow exceptionally well with relative weights averaging 120 in a recent survey and fish in the 5-to-7-pound range fairly common in the angler catch. Due to the large average size of these bass, interest in this fishery has increased substantially in recent years to the point where overcrowding is the most common concern voiced by anglers. Angler use, angler satisfaction, Largemouth Bass harvest, and recruitment rates should be monitored during the plan to better inform future management direction on this growing fishery. Nongame fish are still present with Utah Chub dominating fish biomass. Utah Sucker, which previously was the most abundant species, are now occasionally observed. A variety of species have been stocked in an effort to establish fisheries in Mud Lake. Bluegill were introduced from 1983 to 1985 and are still present at low abundances in the lake. Black Crappie were planted from 1987 to 1989, however this effort was unsuccessful. Walleye were stocked into the lake and did not persist, and introductions of tiger muskie were made into Mud Lake to create a trophy fishery while utilizing the abundant nongame biomass. Recruitment of Tiger Muskie into the fishery was very low and stocking was discontinued although as recent as 2023 an occasional tiger muskie is caught by anglers. Smallmouth and Largemouth Bass have been stocked in small numbers in an effort to jump start the fishery following winter kills, but no Smallmouth Bass have been observed in recent surveys and no stocking has been conducted in many years. Water availability and management in the drainage will directly affect fish management options and the Department (both fisheries and wildlife staff) should be actively engaged in water resource management discussions during the course of this plan as water becomes more limited and in more demand.

Objectives and Strategies

1. Objective: Improve Mountain Whitefish distribution and abundance in the Big Lost River drainage to levels sufficient to ensure long-term population viability and provide a recreational fishery.

   Strategy: Implement actions outlined in the Mountain Whitefish Conservation and Management Plan for the Big Lost River drainage.

   Strategy: Evaluate the effectiveness of fish passage at diversion structures to reduce population fragmentation.

   Strategy: Work collaboratively with partner agencies, water users, and conservation groups to restore fish passage, install diversion screens, and minimize habitat loss associated with dewatering.

   Strategy: Continue to work with partners to perform annual fish salvage efforts at major canals and sections of dewatered river channel.

   Strategy: Collect life history, ecology, and population abundance and trend information on Mountain Whitefish to better understand factors limiting population growth and expansion.

   Strategy: Investigate potential disease vectors, distribution and other factors that may be limiting whitefish abundances.

2. Objective: Maintain and improve angling opportunities and in the Big Lost River drainage.

   Strategy: Continue stocking Yellowstone Cutthroat Trout and other hatchery fish to provide a diverse angling experience.

   Strategy: Work with partner agencies, landowners, and conservation groups to secure perpetual public access to underutilized reaches of the Big Lost.

   Strategy: Identify the limiting factors on trout populations and address with management actions as possible.

   Strategy: Understand and identify potential impact of the proposed pumped storage hydropower project on fish populations in Mackay Reservoir and the Big Lost River downstream of Mackay Dam.

3. Objective: Provide a variety of fishing opportunities in the Sinks drainages for native and nonnative game fish ranging from quality to harvest-oriented and remote to highly accessible fishing.

   Strategy: Implement the Yellowstone Cutthroat Trout Management Plan by protecting isolated native Cutthroat Trout populations in the Medicine Lodge, Beaver Creek, and Camas Creek drainages and identifying opportunities to restore additional Cutthroat Trout populations within their native range.

Strategy: Continue to manage many small streams in the Sinks drainages for Brook Trout, Cutthroat Trout, and Rainbow Trout or other desirable nonnative salmonids outside the native range of Yellowstone Cutthroat Trout.

Strategy: Identify areas where additional fishing opportunity can be created using hatchery products; Assess for impacts to existing/native stocks; Implement stocking program tailored to provide intended benefits to anglers.

Strategy: Manage Paul Reservoir and Birch Creek as high catch rate fisheries supported by stocking.

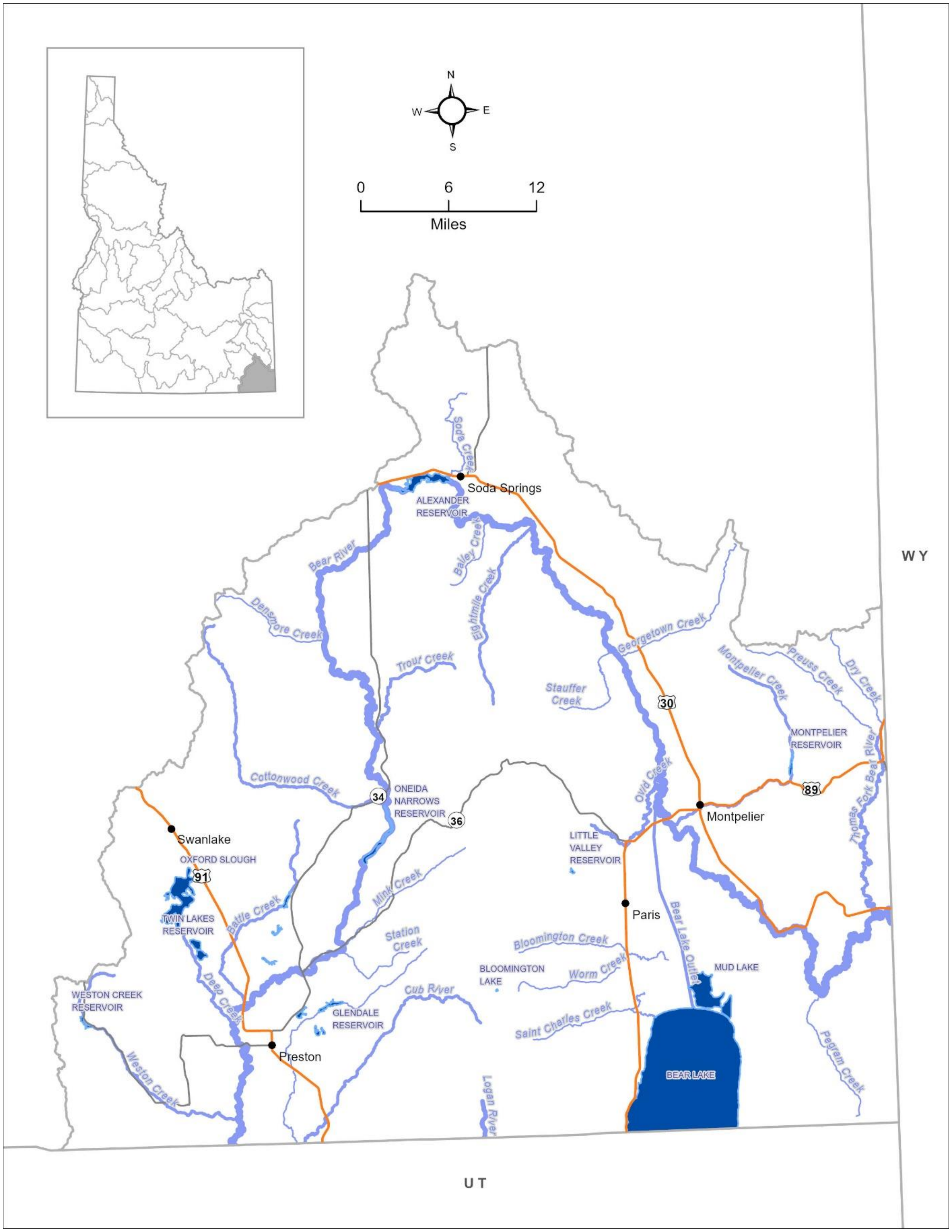
4. Objective: Provide diverse and satisfactory fishing opportunities in HMLs.

   Strategy: Assess additional mountain lakes to determine if additional stocking is warranted.

Drainage: Sinks				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
Big Lost River within INL property (5+ miles)	None	None		All access closed by INL. System annually dewatered.
Big Lost River from INL boundary to Blaine Diversion (22 miles)	Rainbow Trout	Hatchery-supported	General	System dewatered regularly in recent years. Good fishery potential during sustained wet years. Candidate reach for hatchery-supported fishery during some years when dewatering is unlikely or occurs later than normal.
Big Lost River from Blaine Diversion to Mackay Dam (20 miles)	Rainbow Trout Brook Trout Mountain Whitefish	Wild/natural Native	General Conservation	Maintain wild trout populations. Ensure a 50 cfs flow is maintained below Mackay Dam during non-irrigation season. Secure public access. Identify the factor(s) negatively affecting trout, and address as necessary.
Antelope Creek Drainage (48 miles)	Brook Trout Rainbow Trout	Wild/natural Hatchery-supported	General General	Evaluate potential for additional hatchery-supported fishing opportunity where feasible.
Mackay Reservoir (1,140 acres)	Rainbow Trout Kokanee Mountain Whitefish	Hatchery-supported Wild/natural Native	General General Conservation	Put-and-take fishery for Rainbow Trout. Self-sustaining kokanee fishery; hatchery supplementation when necessary. Ensure impacts to fishery are identified, considered, and mitigated for if the proposed pump-storage hydroelectric facility moves forward.
Big Lost River from Mackay Reservoir to Chilly Diversion (15 miles)	Rainbow Trout Brook Trout Mountain Whitefish	Wild/natural Native	General Conservation	Seasonally dewatered through diversions and natural sinks.
Big Lost River from Chilly Diversion upstream to Star Hope Creek (45 miles)	Rainbow Trout Brook Trout Cutthroat Mountain Whitefish	Wild/natural Hatchery-supported Native	General Quality Conservation	Evaluate natural reproduction of Cutthroat Trout and use supplementation accordingly. Determine factors limiting trout abundance and address. Consider additional hatchery-supported fishing opportunities where feasible.
Big Lost River tributaries including North Fork, Star Hope Creek, East Fork, Wildhorse, and Summit creeks (110 miles)	Rainbow Trout Cutthroat Trout Brook Trout Mountain Whitefish	Hatchery-supported Wild/natural Native	General General Conservation	Use supplemental put-and-take stocking in areas of high use. Evaluate success of Cutthroat Trout supplementation. Consider additional hatchery-supported fishing opportunities where feasible.
Little Lost River and tributaries (120 miles)	Rainbow Trout Brook Trout Cutthroat Trout Bull Trout	Wild/natural Hatchery-supported Native	General Quality General	Cooperatively monitor Bull Trout populations. Encourage Brook Trout harvest. Stock Dry Creek with Cutthroat Trout as needed to maintain fishery. Monitor Bull Trout populations and life history.

Birch Creek and tributaries (45 miles)	Rainbow Trout Brook Trout Brown Trout	Hatchery-supported Wild/natural Incompatible	General General	Put-and-take Rainbow Trout fishery to supplement wild trout populations. Monitor impacts from hydropower operations and ensure compliance with FERC mitigation agreement. Plan and implement a control action for illegally introduced Brown Trout.
Medicine Lodge Creek and tributaries (50 miles)	Cutthroat Trout Brook Trout Rainbow Trout	Native Wild/natural	Quality General	Maintain and improve native Cutthroat Trout populations; look for opportunities to create additional fishing opportunities along private lands using Access Yes or similar means.
Beaver/Camas Creek and tributaries (170 miles)	Brook Trout Rainbow Trout Cutthroat Trout	Wild/natural Hatchery-supported Native	General General Quality	Seek out opportunities to partner with local landowners to create public fishing opportunities where quality fishing experiences are lacking. Enhance native Cutthroat Trout population and implement Yellowstone Cutthroat Trout Management Plan as possible.
Mud Lake (3,090 acres)	Largemouth Bass Yellow Perch	Wild/natural Wild/natural	Trophy Yield	Provide cool and warmwater fishery primarily supported by Largemouth Bass. Assess angler use, satisfaction, harvest and recruitment rates to inform management decisions.
Angel Lake (15 acres)	Rainbow Trout Lake Trout	Wild/natural Hatchery-supported	General Quality	Continue evaluation using sterile Lake Trout to attempt to adjust size structure of Rainbow Trout population while diversifying the fishery.

34. Bear River Drainage



Overview

The Bear River and its major tributaries comprise 524 river and stream miles. Bear Lake, the largest lake in the drainage, covers 70,000 surface acres of which 32,000 are in Idaho and 38,000 are in Utah. There are many small irrigation storage reservoirs in the drainage. Fish species found in this drainage include the following native species: Mountain Whitefish, Bear Lake Whitefish, Bonneville Cisco, Bonneville Whitefish, Bonneville Cutthroat Trout, Utah Chub, Longnose Dace, Speckled Dace, Redside Shiner, Utah Sucker, Green Sucker, Mountain Sucker, Paiute Sculpin, Mottled Sculpin, Northern Leatherside Chub, and Bear Lake Sculpin; and the following introduced species: Rainbow Trout, Brown Trout, Brook Trout, kokanee, Green Sunfish, Bluegill, Smallmouth Bass, Largemouth Bass, Black Crappie, White Crappie, Yellow Perch, Walleye, Common Carp, and Channel Catfish.

Habitat for trout in the Bear River is marginal due to past land management practices and hydropower developments. Bear River flows are artificially high in late-summer and fall while irrigation is being delivered, and then decrease artificially low in the late-fall and winter when water is being stored in Bear Lake. Low winter stream flows exacerbate mortality during the time when mortality is highest, and limits aquatic carrying capacity. Bear River Hydroelectric Project (FERC No. P-20) power facilities (i.e., Soda, Grace, and Oneida) have likely altered fish populations as increased water residence times associated with reservoirs can cause water temperature to increase and limit habitat suitability for cold-water aquatic species. Due to both thermal and physical Bear River Project barriers and the altered habitat of the mainstem Bear River, fluvial life histories of cold-water native fish are extremely limited. This has resulted in small, isolated populations of native fish that are more susceptible to extirpation. Additionally, pumped storage hydropower projects have been proposed within the Bear River drainage with as yet unquantified, but likely negative effects to fishery resources.

Bonneville Cutthroat Trout is the only native trout in the Bear River system. The conservation priorities for these fish are described in detail in the 2022 Management Plan for the Conservation of Bonneville Cutthroat Trout in Idaho (IDFG 2022). Recreational harvest of Bonneville Cutthroat Trout in the mainstem and tributaries of the Bear River is not allowed due to their current limited abundance and distribution. When FERC issued a new federal license in 2003 for PacifiCorp to continue operating the Bear River Project, they required PacifiCorp to fund numerous projects to aid in the restoration of Bonneville Cutthroat Trout. Projects implemented through the 2003 license and at the discretion of the Environmental Coordination Committee have included collection and analysis of Bonneville Cutthroat Trout from tributaries and reaches of the mainstem Bear River for genetic analysis, radio telemetry of fluvial Bonneville Cutthroat Trout, irrigation screens that prevent entrainment losses, establishment of a conservation hatchery for Bonneville Cutthroat Trout, riparian fencing, and many tributary stream habitat rehabilitation projects. While these projects are valuable and beneficial, Bonneville Cutthroat Trout populations are stable but not increasing. Conservation work has mainly been focused on tributaries to the Bear River and moving forward, may focus on factors limiting Bonneville Cutthroat Trout in the mainstem Bear River

The Bear River receives the most angler effort in the tailwaters of Oneida Dam and in the Black Canyon. Sediment settles out in the two reservoirs so that water transparency is relatively high in the tailrace reaches. Flows in the Black Canyon come primarily from a bypass pipe providing 48 cfs below Grace Dam, required in the Bear River Project license, as well as from springs. The only time discharges could be less than 48 cfs is during drought years after releases from Bear Lake have been curtailed and natural flow is insufficient to meet irrigation demand at the Last Chance Diversion upriver from Grace Dam. Harvest in these areas is primarily hatchery Rainbow Trout. There is no legal harvest of Cutthroat Trout in the mainstem Bear River or tributaries.

Main tributaries to the Bear River include the Malad and Cub rivers, Thomas Fork, Bloomington, Paris, Montpelier, Georgetown, Stauffer, Skinner, Eightmile, Whiskey, Trout, Williams, Cottonwood, and Mink creeks. Although most of the Cub River is in Idaho, the Cub River enters the Bear River in Utah where water and substrate quality are marginal for trout and most of the fish present are nongame species and non-native warm- and cool-water species. Most tributaries to the Bear River support populations of self-sustaining Cutthroat, Brook, Brown, and/or Rainbow Trout. Highest concentrations of trout are found in the middle and upstream sections. Trout in the lower sections are affected by low summer flows and high temperatures resulting from irrigation withdrawal and riparian degradation. Catchable size sterile Rainbow Trout are planted in accessible streams where habitat conditions and returns to anglers are favorable.

In addition to Bonneville Cutthroat Trout, Bear Lake contains four endemic fish species. These are Bear Lake Whitefish, Bonneville Whitefish, Bonneville Cisco, and Bear Lake Sculpin. Monitoring programs, harvest goals, and management priorities for Bear Lake are included in an interagency management plan for Bear Lake, which is jointly updated by Utah and Idaho fishery managers (UDNR and IDFG 2008); (contact the Pocatello regional office for copies of the most recent edition).

St. Charles Creek is a major spawning stream for Bonneville Cutthroat Trout from Bear Lake. Many of the trout in St. Charles Creek were lost into irrigation diversions. In recent years, the Department, working in coordination with a multi-agency and private landowner/water user working group has cost shared with USFWS grants to install fish screens on major diversions. However, the recent work of Heller et al. (2022a) underscores the importance of irrigation screening as a conservation strategy for migratory Bonneville Cutthroat Trout. These authors found that most wild-origin Bonneville Cutthroat Trout migrated from tributary streams to Bear Lake as age-1 or age-2 fish. Migrations primarily occurred during the low-flow period from early July to early September, overlapping with the irrigation season. This work is ongoing, but has significantly reduced entrainment, likely contributing to higher survival of juvenile Bonneville Cutthroat Trout migrating to Bear Lake.

Fish Haven Creek is also a significant spawning tributary to Bear Lake. This tributary has been a major focus of restoration with including a rotenone treatment in 2009, installation of multiple fish screens on all the irrigation diversions, and the removal of a fish passage barrier near its confluence with Bear Lake. Redd surveys completed after the barrier removal project show that hundreds of adfluvial Bonneville Cutthroat Trout are spawning in this tributary. Heller et al. (2022a) suggested that the lack of Brook Trout and fish screens have improved the likelihood of Bonneville Cutthroat Trout out-migrating from Fish Haven Creek. In fact, Fish Haven Creek had the highest proportion of out-migrating Cutthroat Trout compared to St. Charles and Swan creeks nearby, highlighting the contribution of these restoration actions to sustaining the Bear Lake population.

Habitat work in St Charles and Fish Haven creeks markedly changed the Bear Lake fishery. Recent gillnet data and creel surveys in the lake, and adult trout collections at Utah's Swan Creek spawning trap show that wild-origin fish make up over 90% of the Bonneville Cutthroat Trout population. In 2022, in cooperation with Utah fisheries management, the Idaho Fish and Game Commission changed regulations to allow harvest of both wild and hatchery cutthroat in Bear Lake for the first time in 24 years (Heller et al. 2022b).

Several privately owned irrigation reservoirs support game fish populations in the Bear River drainage and have historically provided public access for fishing. In years where sufficient reservoir water remains at the end of an irrigation season excellent growth and overwinter survival occur. Most are stocked with hatchery Rainbow Trout. In addition, several also contain warmwater game fish such as Bluegill, Yellow Perch, and Largemouth Bass. These reservoirs provide the majority of angling opportunities in the Bear River drainage. Irrigation storage reservoirs in the Bear River basin include Condie, Foster, Glendale, Johnson, Lamont, Little Valley, Montpelier, Oxford, Treasureton, Twin Lakes, Weston, and Winder reservoirs. In 2016, tiger trout were introduced to Montpelier Reservoir to improve size for a stunted perch fishery and in 2024 several certified weight records were documented for the species. With the discovery of Quagga Mussels in Idaho in 2023, many of the owners of these private reservoirs became concerned with allowing public boating access to their waters. Continuing to provide public boating access to these waters will be a point of emphasis during this review period.

Condie, Foster, Glendale, Johnson, Lamont, Twin Lakes, Weston and Winder reservoirs contain Largemouth Bass. All these reservoirs except Devil Creek Reservoir contain warmwater prey species of Bluegill, Yellow Perch, or Crappie. Largemouth Bass were illegally stocked in Devil Creek, Deep Creek, and Treasureton reservoirs. Walleye were first documented as illegally introduced to Glendale Reservoir in 2023.

Condie Reservoir is managed for trophy bass, with a 20-inch minimum size limit. Yellow Perch were illegally stocked in Condie Reservoir in the late 1980s, which decreased Bluegill growth. The Department stocked tiger muskie at Condie Reservoir in 1995, 1997, and 2000 to increase predation on perch and provide an additional trophy species. Tiger muskies have not been restocked at Condie Reservoir. Past bass surveys show a balanced population of quality sized bass in Condie Reservoir.

Trophy trout fishing regulations have been in place at Treasureton Reservoir since 2008. This water is very popular with catch-and-release anglers who enjoy the opportunity to catch large trout. Anglers frequently report catching fish in excess of 24 inches. Largemouth Bass were illegally introduced to the reservoir sometime in the mid-2000s. In 2018, Treasureton Reservoir was chemically renovated to remove Largemouth Bass and to maintain the highly prized trophy trout fishery. In 2023, lowland lake surveys identified the presence of Green Sunfish, likely from an illegal introduction.

Oneida Narrows Reservoir provides a mixed cool-water fishery. The Department has stocked Walleye into Oneida Reservoir since 1976. Walleye disperse both up and downriver and have created locally popular fisheries, especially during spring spawning migrations. Little other fish population information is available for Oneida Reservoir. Smallmouth Bass were introduced into the Bear River in the tailwater reach of Alexander Dam in 1990. Bass dispersed downriver and established populations in Oneida Reservoir and the adjacent reaches of the Bear River. Smallmouth Bass now contribute regularly to the reservoir and river fisheries. The Department also stocks Channel Catfish annually.

Brown Trout were stocked in several reaches of the Bear River up until 1998. Stocking Brown Trout was discontinued to assist with restoration of Bonneville Cutthroat Trout. Brown Trout were most successful as a put-and-grow fishery downriver from Oneida Dam. A residual population of naturally spawning Brown Trout remains in this reach, but at a much lower density than during the stocking period.

Objectives and Strategies

1. Objective: Protect and enhance native and endemic species throughout the Bear River Drainage.

Strategy: Implement the management actions identified in the Bonneville Cutthroat Trout Management Plan including fish propagation measures and long-term evaluations (IDFG 2022).

Strategy: Conduct fish population surveys in streams where Bonneville Cutthroat trout occupancy is currently unknown.

Strategy: Implement stocking strategies and population evaluations identified in the Bear Lake Management Plan (UDWR and IDFG 2008).

Strategy: update and rewrite the Bear Lake Management Plan (UDWR and IDFG 2008) in cooperation with Utah resource managers.

Strategy: Identify limiting factors throughout the Bear River Drainage. Work with partners to identify factors on trout and other species; develop and implement strategies to reduce and eliminate limiting factors.

2. Objective: Improve habitat for Bonneville Cutthroat Trout.

Strategy: Cooperate with PacifiCorp and the Environmental Coordination Committee to implement and monitor Bear River Hydroelectric Project FERC license P-20 conditions to protect and enhance Bonneville Cutthroat Trout in the Bear River system.

Strategy: Seek participants in NRCS Continuous Signup Conservation Reserve Program to protect stream banks from impacts of livestock grazing.

Strategy: Anticipate and prepare for FERC relicensing for the Bear River Hydroelectric Project P-20 and the Mink Creek Hydroelectric Project P-8646 to begin approximately 2027 and 2031.

- Conduct fishery inventories on all affected waters (Mainstem Bear River from Wyoming to Utah; Alexander Reservoir; Oneida Reservoir) to aid analysis of project impacts and to inform mitigation discussions.
- Analyze potential project-specific effects and apply the mitigation hierarchy to recommend measures to offset negative effects throughout a project’s life cycle.

Strategy: Seek opportunities to reduce entrainment at unscreened irrigation diversions and maintain existing fish screens that improve survival of migratory Bonneville Cutthroat Trout.

Strategy: Seek opportunities to protect riparian habitat, improve and protect stream flows, and improve fish passage and stream connectivity.

3. Objective: maintain and improve fishing and boating access.

Strategy: work with private irrigation companies and local communities to re-establish and enhance boating access to small irrigation reservoirs throughout the Bear River drainage.

Strategy: seek opportunities with management partners and private landowners to improve fishing and boating access to the Bear River.

4. Objective: Reduce impacts from illegal introductions of non-native fish species

Strategy: Increase outreach on incompatible species.

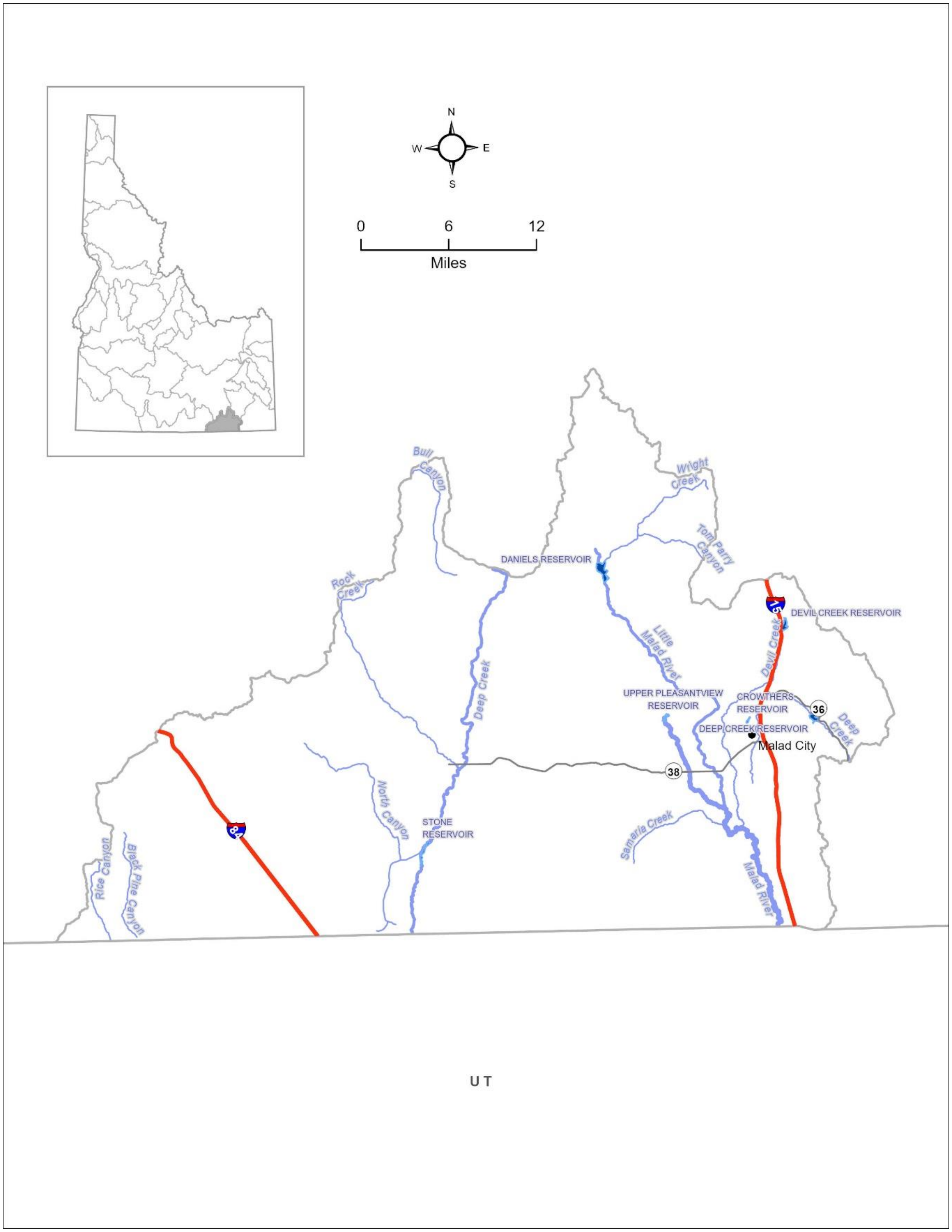
Strategy: Chemically renovate waters where non-native fish species are limiting fishery performance, or native species conservation.

Drainage: Bear River				
Waterbody	**Species of Interest**	**Management Strategies**		**Additional Management Directions**
		Primary	**Secondary**	
Bear River from Utah state line upstream to Highway 91 (15 miles)	Channel Catfish Walleye Brown Trout Cutthroat Trout Smallmouth Bass	Hatchery-supported Wild/natural Native Wild/natural	General Yield General Conservation Yield	Maintain and improve fishing opportunities for nonnative fish where appropriate Seek opportunities to improve spawning habitat for Bonneville Cutthroat Trout.
Bear River from Highway 91 to Oneida Dam (20 miles)	Cutthroat Trout Rainbow Trout Walleye Brown Trout Smallmouth Bass	Native Hatchery-supported Wild/natural	Conservation General Yield General Yield	Seek opportunities to improve conditions for native Bonneville Cutthroat Trout. Maintain the high-use fishery through sterile Rainbow Trout stocking and (or) native Cutthroat Trout supplementation. Evaluate exploitation and use of hatchery stocked trout.
Oneida Reservoir (420 acres)	Smallmouth Bass Walleye Panfish	Wild/natural Hatchery-supported Wild/natural	Yield Yield Yield	Evaluate fish community and angler use of fishery resources. Evaluate growth potential of Smallmouth Bass and consider managing for larger fish if warranted. Understand how a pump storage hydropower project could impact the fishery. Improve angler access by adding boat ramps where feasible
Bear River from Oneida Narrows Reservoir headwaters to Grace Dam (30 miles)	Cutthroat Trout Rainbow Trout Walleye Brown Trout Smallmouth Bass	Native Hatchery-supported Wild/natural	Conservation General Yield General	Work with landowners and water users on tributaries to restore native Cutthroat populations. Monitor fish populations including Bonneville Cutthroat Trout in the river and primary tributaries. Stock only terile hatchery trout
Condie Reservoir (85 acres)	Panfish Largemouth Bass	Wild/natural Wild/natural	Yield Trophy	Monitor community structure of Largemouth Bass and panfish. Work with private landowners to increase boater access.
Foster Reservoir (130 acres)	Rainbow Trout Largemouth Bass Panfish	Hatchery-supported Wild/natural	General General Yield	Evaluate exploitation and use of stocked Rainbow Trout. Work with private landowners to increase boater access.
Glendale Reservoir (215 acres)	Rainbow Trout Largemouth Bass Panfish	Hatchery-supported Wild/natural	General General Yield	Evaluate impacts from illegal walleye introductions.
Johnson Reservoir (40 acres)	Rainbow Trout Largemouth Bass Panfish	Hatchery-supported Wild/natural	General General Yield	Work with private landowners to increase boater access.

Lamont Reservoir (85 acres)	Rainbow Trout Largemouth Bass Panfish	Hatchery-supported Wild/natural	General General Yield	Work with private landowners to increase boater access.
Treasureton Reservoir (150 acres)	Rainbow Trout Hybrid Trout	Hatchery-supported	Trophy	Monitor trophy performance of trout in this fishery with Green Sunfish recently introduced.
Twin Lakes Reservoir (440 acres)	Rainbow Trout Largemouth Bass Panfish	Hatchery-supported Wild/natural	General General Yield	Manage for harvest-oriented opportunity Evaluate exploitation and use of stocked hatchery trout.
Weston Reservoir (110 acres)	Rainbow Trout Largemouth Bass Panfish	Hatchery-supported Wild/natural	General General Yield	Work with private landowners to increase boater access.
Winder Reservoir (75 acres)	Rainbow Trout Largemouth Bass Panfish	Hatchery-supported Wild/natural	General General Yield	Continue providing diverse, harvest-oriented fishing opportunities. Supplement as necessary to maintain fishery. Work with private landowners to increase boater access.
Bear River from Grace Dam, to Soda Point Dam (5 miles)	Cutthroat Rainbow Trout Smallmouth Bass	Native Hatchery-supported Wild/natural	Conservation General General	Evaluate fishery and monitor negotiated flow below Grace Dam.
Alexander Reservoir (1,010 acres)	Cutthroat Trout Panfish Smallmouth Bass Channel Catfish	Native Wild/natural Hatchery-supported	Conservation Yield General General	Provide warmwater angling and harvest opportunities. Look for ways to improve this fishery; Assess new species introductions including creating a White Sturgeon harvest opportunity (based on public support/demand for such a fishery).
Bear River from Alexander Reservoir to Bear Lake (79 miles)	Cutthroat Trout Brown Trout Smallmouth Bass Channel Catfish	Native Wild/natural Hatchery-supported	Conservation General General	Reduce turbidity and sources of fine sediment. Evaluate the Bear Lake Outlet Canal for sources of thermal loading and fine sediments. Cooperate with PacifiCorp and others on fishery mitigation and in NRCS projects to achieve this goal. Increase fishing and boating access.
Montpelier Reservoir (130 acres)	Rainbow Trout Tiger Trout Cutthroat Trout Kokanee Panfish	Hatchery-supported Wild/natural	General Yield	Evaluate the influence of tiger trout introductions upon the Yellow Perch and kokanee fisheries.
Bloomington Lake (10 acres)	Rainbow Trout	Hatchery-supported	General	Continue to stock sterile hatchery fingerlings to maintain harvest opportunities.
Little Valley Reservoir (35 acres)	Rainbow Trout	Hatchery-supported	General	Supplement fish population, when necessary to maintain fishing opportunities for public.

Cub River (20 miles)	Cutthroat Trout Rainbow Trout Brook Trout Brown Trout Rainbow Trout	Native Incompatible Incompatible Wild/natural Hatchery-supported	Conservation General	Stock sterile catchable Rainbow Trout at Willow Flats campground only. Evaluate exploitation and use of stocked hatchery trout. Evaluate expansion of non-native trout populations.
Other Bear River tributaries that are stocked with Rainbow Trout catchables: Whiskey, Eight Mile, Georgetown, Paris and Bloomington (44 miles)	Cutthroat Trout Rainbow Trout Brook Trout Brown Trout	Native Hatchery-supported Incompatible Incompatible	Conservation General	Stock sterile Rainbow Trout near established campgrounds. Encourage harvest of Brook and Brown Trout.
All other Bear River tributaries (not stocked) are managed for wild Cutthroat Trout, Brown, Rainbow and Brook Trout (44 miles)	Cutthroat Trout Brook Trout Brown Trout Rainbow Trout	Native Incompatible Incompatible Incompatible	Conservation	Emphasize native fish management and habitat restoration efforts. Implement monitoring program identified in the Idaho Conservation plan.
St. Charles Creek (20 miles)	Cutthroat Trout Brook Trout Rainbow Trout	Native Incompatible Incompatible	Conservation	Continue to improve habitat and fish passage conditions in St. Charles Creek. Seek opportunities to increase natural spawning success, and to minimize losses into irrigation canals. Consider chemical treatment to reduce non-native trout populations.
Bear Lake (69,470 acres)	Cutthroat Trout Lake Trout Cutthroat Trout Bonneville Cisco Bear Lake Whitefish Bonneville Whitefish Bear Lake Sculpin	Hatchery-supported Native Native Native Native Native	Quality Quality Conservation Conservation Conservation Conservation	 Monitor increases in wild Cutthroat Trout and evaluate efficacy of reducing stocking of hatchery trout Stock sterile Lake Trout to provide trophy fishery as necessary and prudent. Coordinate with Utah DWR to optimize conditions for native species. Continue to refine and improve monitoring programs. Evaluate Bear Lake Sculpin monitoring protocol and general ecology.
Fish Haven Creek (10 miles)	Cutthroat Trout Brook Trout	Native Incompatible	Conservation	Monitor natural production to determine contribution to the lake population.
Thomas Fork Creek (31 miles)	Cutthroat Trout	Native	Conservation	Participate in USFS and NRCS habitat improvement programs.
Preuss Creek (13 miles)	Cutthroat Trout	Native	Conservation	Emphasize native fish management and habitat restoration efforts.
Dry Creek (9 miles)	Cutthroat Trout	Native	Conservation	Emphasize native fish management and habitat restoration efforts.
Giraffe Creek (11 miles)	Cutthroat Trout	Native	Conservation	Emphasize native fish management and habitat restoration efforts.
Bear River from Stewart Dam to Wyoming border (80 miles)	Cutthroat Trout Brown Trout	Native Wild/natural	General General	Monitor Cutthroat Trout population.

35. Malad River Drainage



Overview

Streams in the Malad River drainage total 83 miles. Fish species found in this drainage include the following native species: Bonneville Cutthroat Trout, Utah Chub, Longnose Dace, Speckled Dace, Utah Sucker, Mountain Sucker, and Mottled Sculpin; and the following introduced species: Rainbow Trout, Common Carp, Brown Bullhead, Channel Catfish, Green Sunfish, and Largemouth Bass.

The Malad River has excessive suspended sediment, mostly silt substrate, and eroded banks. Irrigation withdrawals in summer and storage in winter limit flows. These conditions inhibit restoration of native fluvial trout fisheries. Most angling occurs at Daniels, Deep Creek, Devil Creek, Crowthers, and Stone reservoirs.

Fingerling trout stocked in Daniels Reservoir grow rapidly. However, few fish exceed 20”, which may be due to a lack of forage resources for larger fish. Creel surveys completed in 2024 will help describe angler use at this fishery, which is the most popular fishery in this drainage.

The Deep Creek Irrigation Company drained Deep Creek Reservoir in 2004 to make needed repairs to their outlet structure. This eliminated a fishery for Largemouth Bass that began with an illegal introduction. No bass were restocked, and the trout fishery improved. However, in 2017 Largemouth Bass were once again observed in Deep Creek Reservoir. In 2016, the irrigation company that manages water levels closed the reservoir to all boats. The purpose of the closure was to reduce the risk of invasive mussel introductions. Anglers continue to fish from shore and during ice cover. Stocking was reduced to account for the loss in boating access. Stream surveys in the 1990s and again in 2000 documented the presence of Bonneville Cutthroat Trout in First, Second, and Third creeks that are tributaries to Deep Creek Reservoir east of Malad City. Because Largemouth Bass are predators of other fish species, they are incompatible with hatchery Rainbow Trout and the Cutthroat Trout that are produced in the tributaries to Deep Creek Reservoir.

Devil Creek Reservoir (142 acres) is a popular hatchery Rainbow Trout and kokanee fishery less than a mile from, and within view of, Interstate Highway 15. Nongame fish overpopulated this reservoir in the late 1990s. Department personnel renovated Devil Creek Reservoir with rotenone in 1999 and restocked with Rainbow Trout and kokanee in 2000. Crowthers Reservoir is managed for put-and-take hatchery Rainbow Trout as well as Largemouth Bass and Bluegill. Pleasantview Reservoir (47 acres) is managed as a put-and-take hatchery Rainbow Trout fishery. St. Johns Reservoir (48 acres) was permanently drained in 2003 when a significant leak in the dam occurred. This was a loss of a popular fishery for Bluegill, Yellow Perch, Crappie and Largemouth Bass.

Stone Reservoir is located on Deep Creek in Curlew Valley approximately six miles north of Snowville, Utah. It is stocked with hatchery Rainbow Trout annually and has self-sustaining populations of Largemouth Bass and Crappie.

Objectives and Strategies

1. Objective: Maintain the trophy trout fishery at Daniels Reservoir.

   Strategy: Continue to stock sterile hatchery rainbow trout and manage for low levels of fishing-related mortality to allow adequate survival to trophy size.

2. Objective: Improve fish passage for Bonneville Cutthroat in tributaries of Deep Creek Reservoir.

Strategy: Alter or replace road culverts to improve aquatic organism passage.

4. Objective: Maintain and improve angler access to irrigation reservoirs.

   Strategy: Work with the local irrigation companies and county commissions to minimize public access restrictions

5. Objective: Minimize impacts of land use and development on fish habitat and water quality.

   Strategy: Work with government agencies, private landowners, developers, and interested conservation groups to make protection and enhancement of fish habitat and water quality a primary concern in land-use decisions.

Drainage: Malad River				
Waterbody	Species of Interest	Management Strategies		Additional Management Directions
		Primary	Secondary	
Malad River from Utah border upstream to Malad City (35 miles)	Channel catfish Panfish	Wild/natural	General	Improve riparian habitat condition by encouraging altered grazing practices.
Malad River tributaries (60 miles)	Cutthroat Trout	Native	Quality	Improve riparian habitat condition and evaluate stream-road crossings for aquatic organism passage.
Daniels Reservoir (360 acres)	Rainbow Trout	Hatchery-supported	Trophy	Maintain trophy trout fishery. Maintain access to fishing and boating for the public through agreements with St. John's Irrigation Company.
Deep Creek Reservoir (160 acres)	Rainbow Trout Largemouth Bass	Hatchery-supported Incompatible	General	Improve access to boating for anglers, though cooperative agreements with Deep Creek Irrigation Company, Oneida County, and the U.S. Forest Service.
Devils Creek Reservoir (125 acres)	Rainbow Trout Kokanee Largemouth Bass	Hatchery-supported Wild/natural	General General	Evaluate return-to-creel for the kokanee stocking program. Maintain access to fishing and boating for the public through agreements with Oneida County and Malad Valley Irrigation Company. Periodically monitor bass population
Crowther's Reservoir (20 acres)	Rainbow Trout Largemouth Bass Panfish	Hatchery-supported Wild/natural	General General Yield	Periodically monitor bass and panfish populations.

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ACKNOWLEDGEMENTS

APPENDIX 1. A LIST OF IDAHO FISH SPECIES AND THEIR DISTRIBUTION BY DRAINAGE

A list of Idaho fish species and their distribution by drainage, current as of 2018.

		Species			Drainage [a]							
Common Name	**Family**	**Common Name**	**Scientific Name**	**Origin [b]**	**K**	**P**	**S**	**Pa**	**Sb**	**Sa**	**B**	**I**
Trout	Salmonidae	Lake Whitefish	*Coregonus clupeaformis*	I		X						
		Bear Lake Whitefish	*Prosopium abyssicola*	N							X	
		Pygmy Whitefish	*Prosopium coulterii*	N		X						
		Bonneville Cisco	*Prosopium gemmifer*	N							X	
		Bonneville Whitefish	*Prosopium spilonotus*	N							X	
		Mountain Whitefish	*Prosopium williamsoni*	N	X	X	X		X	X	X	X
		Coho Salmon	*Oncorhynchus kisutch*	I[c]					X	X		
		Sockeye Salmon	*Oncorhynchus nerka*	N					X			
		Kokanee	*Oncorhynchus nerka kennerlyi*	N	X	X[I]	X[I]		X	X[I]		X[I]
		Chinook Salmon	*Oncorhynchus tshawytscha*	N			X[I]		X			
		Golden Trout	*Oncorhynchus aguabonita*	I	X		X		X	X		X
		Westslope Cutthroat Trout	*Oncorhynchus clarkii lewisi*	N	X	X	X		X			
		Yellowstone Cutthroat Trout	*Oncorhynchus clarkii bouvieri*	N						X		X
		Bonneville Cutthroat Trout	*Oncorhynchus clarkii utah*	N							X	
		Lahontan Cutthroat Trout	*Oncorhynchus clarkii henshawi*	I					X	X		X
		Rainbow Trout	*Oncorhynchus mykiss*	N	X	X[I]	X	X	X	X[I]	X[I]	X[I]
		Redband Trout	*Oncorhynchus mykiss gairdneri*	N	X				X			
		Steelhead	*Oncorhynchus mykiss gairdneri*	N					X			
		Brown Trout	*Salmo trutta*	I		X	X	X	X	X	X	
		Tiger trout	*Salmo trutta x Salvelinus fontinalis*	I					X	X	X	X
		Atlantic Salmon	*Salmo salar*	I					X			
		Blueback Trout	*Salvelinus alpinus oquassa*	I					X			
		Brook Trout	*Salvelinus fontinalis*	I	X	X	X	X	X	X	X	X
		Bull Trout	*Salvelinus confluentus*	N	X	X	X		X			X
		Lake Trout	*Salvelinus namaycush*	I		X			X	X	X	
		Splake	*Salvelinus namaycush x fontinalis*	I		X	X		X	X		
		Arctic Grayling	*Thymallus arcticus*	X		X		X	X		X	

Lamprey	Petromyzontidae	Pacific Lamprey	*Entosphenus tridentata*	N					X			
Sturgeon	Acipenseridae	White Sturgeon	*Acipenser transmontanus*	N	X				X	X[1]		
Pike	Esocidae	Northern Pike	*Esox lucius*	I		X	X					
		Tiger muskellunge (muskie)	*Esox lucius x E. masquinongy*	I	X	X	X		X		X	X
Minnow	Cyprinidae	Chiselmouth	*Acrocheilus alutaceus*	N					X			
		Goldfish	*Carassius auratus*	I					X			X
		Lake Chub	*Couesius plumbeus*	N	X							
		Common Carp	*Cyprinus carpio*	I				X	X	X	X	
		Grass Carp (sterile)	*Ctenopharyngodon idella*	I		X	X	X	X	X	X	
		Utah Chub	*Gila atraria*	N					X	X	X	X
		Tui Chub	*Siphateles bicolor*	I					X			
		Northern Leatherside Chub	*Lepidomeda copei*	N						X	X	
		Peamouth	*Mylocheilus caurinus*	N	X	X	X		X			
		Spottail Shiner	*Notropis hudsonius*	I					X	X	X	
		Fathead Minnow	*Pimephales promelas*	I		X			X	X		
		Northern Pikeminnow	*Ptychocheilus oregonensis*	N	X	X	X	X	X			
		Longnose Dace	*Rhinichthys cataractae*	N	X	X	X	X	X	X	X	X
		Leopard Dace	*Rhinichthys falcatus*	N					X			
		Speckled Dace	*Rhinichthys osculus*	N			X	X	X	X	X	X
		Redside Shiner	*Richardsonius balteatus*	N	X	X	X	X	X	X	X	X
		Tench	*Tinca tinca*	I		X	X					
Sucker	Catostomidae	Utah Sucker	*Catostomus ardens*	N						X	X	X
		Longnose Sucker	*Catostomus catostomus*	N	X	X	X					
		Bridgelip Sucker	*Catostomus columbianus*	N			X	X	X			
		Bluehead Sucker	*Catostomus discobolus*	N						X	X	
		Largescale Sucker	*Catostomus macrocheilus*	N	X	X	X	X	X			
		Mountain Sucker	*Catostomus platyrhynchus*	N					X	X	X	X
Catfish	Ictaluridae	Black Bullhead	*Ameiurus melas*	I			X		X			
		Brown Bullhead	*Ameiurus nebulosus*	I	X	X	X	X	X	X	X	
		Yellow Bullhead	*Ameiurus natalis*	I					X	X		

		Blue Catfish	*Ictalurus furcatus*	I					X			
		Channel Catfish	*Ictalurus punctatus*	I	X	X	X		X	X	X	
		Tadpole Madtom	*Noturus gyrinus*	I					X			
		Flathead Catfish	*Pylodictis olivaris*	I					X			
Trout-perch	Percopsidae	Sand Roller	*Percopsis transmontana*	N					X			
Cod	Gadidae	Burbot (ling)	*Lota*	N	X							
Livebearer	Poeciliidae	Mosquitofish	*Gambusia affinis*	I					X	X	X	
		Guppy	*Poecilia reticulata*	I[d]							X	X
		Green Swordtail	*Xiphophorus helleri*	I[d]					X		X	X
		Platy	*Xiphophorus* spp.	I[d]							X	X
Sunfish	Centrarchidae	Green Sunfish	*Lepomis cyanellus*	I			X				X	
		Pumpkinseed	*Lepomis gibbosus*	I	X	X	X	X	X	X		
		Warmouth	*Lepomis gulosus*	I					X			
		Bluegill	*Lepomis macrochirus*	I	X	X	X	X	X	X	X	
		Smallmouth Bass	*Micropterus dolomieu*	I		X	X		X	X	X	
		Largemouth Bass	*Micropterus salmoides*	I	X	X	X	X	X	X	X	
		Black Crappie	*Pomoxis nigromaculatus*	I	X	X	X	X	X	X	X	X
		White Crappie	*Pomoxis annularis*	I					X			
Perch	Percidae	Yellow Perch	*Perca flavescens*	I	X	X	X		X	X	X	X
		Walleye	*Sander vitreus*	I		X			X		X	
		Sauger	*Sander canadensis*	I							X	
Sculpin	Cottidae	Mottled Sculpin	*Cottus bairdii*	N					X	X	X	X
		Paiute Sculpin	*Cottus beldingii*	N					X	X	X	
		Slimy Sculpin	*Cottus cognatus*	N	X	X			X			
		Shorthead Sculpin	*Cottus confusus*	N			X		X			X
		Bear Lake Sculpin	*Cottus extensus*	N							X	
		Shoshone Sculpin	*Cottus confusus*	N					X			
		Wood River Sculpin	*Cottus leiopomus*	N					X			
		Cedar Sculpin	*Cottus schitsuumsh*	N		X	X					
		Torrent Sculpin	*Cottus rhotheus*	N	X	X	X	X	X			
Cichlid[d]	Cichlidae	Mozambique (Java) Tilapia	*Tilapia mossambicus*	I[d]					X			X
		Redbelly (Zill's) Tilapia	*Tilapia zillii*	I[d]					X			

		Convict Cichlid	*Amatitlania nigrofasciata*	I[d]	X	X
Loach	Cobitidae	Oriental Weatherfish	*Misgurnus anguillicandatus*	I	X	
Shad	Clupeidae	American Shad	*Alosa sapidissima*	I	X	
Killifish	Cyprinodontidae	Banded Killifish	*Fundulus diaphanus*	I	X[e]	

[a] K=Kootenai River drainage, P=Pend Oreille River drainage, S=Spokane River drainage, Pa=Palouse River drainage, Sb=Snake River below Shoshone Falls, Sa=Snake River above Shoshone Falls, B=Bear River drainages, and I=Independent drainages.
[b] N=Native and I=Introduced.
[c] Natural population of Coho extirpated; new population of hatchery origin.
[d] Confined to geothermal water.
[e] Native in part of the state, but introduced into this drainage.